

# **South Carolina Forestry Commission**

## **Annual Report 2000-2001**

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# **STATE COMMISSION OF FORESTRY**

## **Members of the Commission**

G. Edward Muckenfuss, Chairman, Summerville

J. Kenneth Hill, Vice Chairman, Fort Mill

Lawrence J. Bloomer, Easley

Sara L. Simons, Florence

David B. Smith, Conway

Mitchell S. Scott, Allendale

John A. McAllister, Mt. Carmel

George W. Flanders, Lancaster

James F. Barker, President Clemson University

Boris Hurlbutt, Chairman Emeritus, Walterboro

## **Administration**

J. Hugh Ryan, State Forester and Secretary to the Commission (2000)  
Robert C. Schowalter, State Forester and Secretary to the Commission (2001)

William Boykin, Deputy State Forester

Dean Carson, Technical Assistant to the State Forester

Judy J. Weston, Executive Assistant to the State Forester

Tim Adams, Division Director, Field Operations Support

Joe M. Richbourg, Division Director, Administration

Cecil Campbell, Division Director, Coastal Region

Steve Scott, Division Director, Pee Dee Region

Charles Ramsey, Division Director, Piedmont Region

## **MISSION**

The mission of the Forestry Commission is to protect, promote, enhance, and nurture the forest lands of South Carolina in a manner consistent with achieving the greatest good for its citizens.

Responsibilities extend to all forest lands, both rural and urban, and to all associated forest values and amenities including, but not limited to, timber, wildlife, water quality, air quality, soil protection, recreation, and aesthetics.

The Forestry Commission shall have general and specific responsibilities for the promulgation and enforcement of laws and regulations related to protection of the forest and its associated values.

The Commission shall be responsible for promoting and developing the appropriate technologies to accomplish its objectives, and for the development and promulgation of Best Management Practice Guidelines for South Carolina's forest land.

# **FIELD OPERATIONS SUPPORT**

The Field Operations Support (FOS) Division provides operational and technical staff direction to the Forestry Commission field organization in each of the major program areas of forest management, forest protection, nurseries and tree improvement, and state forests and other state lands.

## **FOREST MANAGEMENT**

The Forest Management Section assists South Carolina citizens with management and development of the forest resources of the state. Programs include woodland management assistance, reforestation assistance, forestry services, forest products utilization and marketing assistance, resource conservation and development, water quality, urban forestry, and forest inventory. These programs assist owners in growing more timber, aid industries in more efficient utilization of the timber resource, and foster conservation and multiple use of the forest resource.

There are 12.4 million acres of commercial forestland in South Carolina. According to the 1993 U.S. Forest Service Survey, farmers and non-industrial private owners own 72% of this land. Forest industry owns approximately 19% with 9% in public ownership.

The Forest Management programs are designed to assist the non-industrial private landowner with multiple-use forest management.

## **FOREST MANAGEMENT ASSISTANCE**

Professional foresters from the Forestry Commission provide forest management advice and assistance to landowners. The land is examined and a written forest management plan is prepared. Recommendations for management may include such silvicultural practices as forest protection, reforestation, harvesting, prescribed burning, wildlife habitat improvement, and recreation.

This year, 2,709 management plans were prepared for 167,240 acres. Beginning in July of 1999, customer satisfaction surveys were sent to every landowner that received a forestry management plan. In FY 01, 98% of the landowners that responded to the survey indicated that they were very satisfied or somewhat satisfied with the management plan they received. Of these landowners, 89% also indicated that they intended to complete most or all of the recommendations in their plan. Where practical, the landowner is referred to consulting or industrial foresters to assist in carrying out management recommendations. This year 320 cases were referred to consulting foresters and 44 to industrial foresters.

## **COST SHARE PROGRAMS**

### **Forest Renewal Program (FRP) - State**

In 1982 the program was funded for the first time by a \$100,000 state appropriation. This permitted an assessment of \$400,000 from forest industry, and created a \$500,000 Forest Renewal Fund. The state funding was doubled effective July 1, 1996. This increase permitted an assessment of \$800,000 increasing the program to \$1,000,000.

### **Forest Incentives Program (FIP) - Federal**

FIP funding for fiscal year 2000-01 was \$487,200.

### **Conservation Reserve Program (CRP) - Federal**

The Program began with crop year 1986 and was renewed with the passage of the 1990 Farm Bill. Twenty-two signups have been held. This year 11,457 acres were planted. The CRP program was renewed again with the 1996 Farm Bill.

### **Statewide Accomplishments for All Cost-Share Programs**

#### **Reforestation and Timber Stand Improvement**

<b>Program of Landowners</b>	<b>Number</b>	<b>Acres Planted</b>	<b>Natural Regeneration</b>	<b>TSI Acres</b>	<b>Cost Share Payments</b>
FRP	644	10,301	89	3048	\$899,871
FIP	480	10,640	0	2,660	\$400,000
CRP	329	11,529	0	0	\$764,351
SIP	15	546	0	58	\$42,079
<b>Totals</b>	<b>1,468</b>	<b>33,016</b>	<b>89</b>	<b>5,766</b>	<b>\$2,106,301</b>

### **SEEDLING SURVIVAL**

Survival checks were made on 10 percent of plantings using a row count or tenth acre plot method for determining survival. A weighted average involving all survival checks was used to determine the statewide survival of 74% for loblolly pine plantings. Survival rates for longleaf pine plantings were tabulated separately. Plantings with bareroot longleaf seedlings had a survival rate of 45% and survival improved to 72% when containerized longleaf seedlings were used.

## Forest Management Assistance 2000-2001

County	Non Cost-Share		Cost-Share		Forest Stewardship	
	Exams	Acres	Exams	Acres	Exams	Acres
Abbeville	28	2,636	4	160	2	2,933
Aiken	37	2,740	31	1,645	7	1,970
Allendale	7	820	23	808	0	0
Anderson	25	2,274	36	3,876	0	0
Bamberg	7	460	42	1,454	3	1,182
Barnwell	21	1,465	23	1,120	4	834
Beaufort	12	1,327	4	136	0	0
Berkeley	23	1,431	32	1,182	6	318
Calhoun	6	359	19	831	8	566
Charleston	25	1,241	8	220	5	589
Cherokee	11	536	9	455	2	173
Chester	15	1,311	16	544	5	911
Chesterfield	42	4,483	51	2,120	1	209
Clarendon	20	754	68	1,912	5	985
Colleton	23	1,299	70	2,376	8	920
Darlington	15	1,022	18	670	1	103
Dillon	20	1,581	32	1,215	8	1,266
Dorchester	26	1,242	12	508	4	388
Edgefield	10	642	71	3,606	5	732
Fairfield	20	1,445	19	769	7	5098
Florence	21	912	69	2,046	1	160
Georgetown	9	571	20	718	1	27
Greenville	22	943	4	86	1	111
Greenwood	20	2,171	9	441	2	237
Hampton	39	2,013	47	1,888	6	941
Horry	68	6,593	147	1,954	4	1,184
Jasper	14	652	11	453	6	204
Kershaw	15	1,181	31	1,335	0	0
Lancaster	37	1,766	15	617	0	0
Laurens	8	780	33	1,614	1	75
Lee	0	0	55	1,664	0	0
Lexington	23	2,154	29	1,046	4	265
Marion	25	2,502	31	781	2	641
Marlboro	32	2,992	20	929	0	0
McCormick	17	1,540	0	0	3	607
Newberry	63	4,189	69	2,953	0	0
Oconee	24	1,228	22	1,475	1	98
Orangeburg	24	912	143	5,388	11	3,132
Pickens	18	3,891	8	275	0	0
Richland	27	1,973	21	1,407	2	267
Saluda	6	245	63	2,296	5	652
Spartanburg	10	283	9	353	4	2,020
Sumter	8	227	50	1,649	2	619
Union	10	708	20	1,069	1	576
Williamsburg	17	1,153	62	2,254	6	2,240
York	17	1,181	19	675	3	1,206
<b>State Totals</b>	<b>967</b>	<b>71,828</b>	<b>1,595</b>	<b>60,973</b>	<b>147</b>	<b>34,439</b>

## FOREST SERVICES

Through this program the Commission provides assistance to landowners and other state agency lands with afforestation, reforestation, and maximization of production from their woodlands. The landowner is charged the cost of all services performed.

These services were available to landowners during the year:

**Firebreak Plowing** - performed by Forestry Commission employees using agency equipment for \$75 for the 1st hour and \$50 for each additional hour.

**Prescribed Burning** - performed by Forestry Commission employees using agency equipment for \$12 per acre for the 1st 50 acres, \$10 per acre for the 2nd 50 acres and \$8 per acre for all over 100 acres. Firebreak plowing costs are not included. Minimum fee \$100.00.

**Prescribed Burning Standby** - an agency tractor and employee on standby at burning site while landowner performed burning under an approved plan for \$45 for the 1st hour and \$20 for each additional hour. Minimum fee \$100.00.

**Equipment Rental Program** - agency owned tree planters, bedding plows and drum choppers made available to private landowners at rates from \$4 to \$15 per acre.

**Timber Marking** - performed by Forestry Commission employees at the rate of \$5 per thousand board feet and \$2.00 per cord.

Service	Number of Tracts	Units of Measure	Receipts FY 99-00
Firebreak Plowing	756	1,721 miles	\$149,275
Prescribed Burning	211	15,573 acres	\$161,090
Prescribed Burning Standby	39	3,134 acres	\$5,985
Equipment Rental	77	1,533 acres	\$11,029
Water Bar Construction	11	155 bars	\$3,775
Timber Marking	13	822 cords 394,879 board feet.	\$3,620
<b>Totals</b>	<b>1107</b>		<b>\$334,774</b>

Beginning in July of 1999, a customer satisfaction survey was sent to all landowners that received forestry services. In FY 01, 58% of the surveys were returned and 96% of these landowners indicated that they were very satisfied or somewhat satisfied with the services they had received.

## ENVIRONMENTAL MANAGEMENT

The Environmental Management program is responsible for the development and implementation of South Carolina Forestry Commission services that are related to the environmental protection of forest and associated natural resources. Issues that are addressed include the protection of water quality, site productivity, endangered species, and



unique ecosystems. Due to the success of this program, the SC Forestry Commission received a regional Environmental Merit Award from The U.S. Environmental Protection Agency (EPA) Southeast, Region 4.

## **BMP Implementation Monitoring**

Compliance with harvesting BMPs has been documented in four previous surveys. Compliance for harvesting BMPs was 84.5% in 1990, 84.7% in 1991, and 89.5% in 1994, and 91.5% in 1999. A new survey was initiated in the fall of 2000 to update BMP compliance. Two hundred sites were located and inspected throughout South Carolina by BMP Foresters. Compliance with harvesting BMPs in the 2000 survey improved to 94%.

## **BMP Education/Training Program**

BMP education and training are essential to the success of the Forestry Commission's non-regulatory BMP program. During this fiscal year, 54 BMP meetings were held across the state for forest landowner groups, government agencies, and professional organizations. A total of 1,974 people attended these meetings. Included in these meetings were four Timber Operations Professional (TOP) workshops, one TOP Road Construction workshop, and nine TOP Refresher courses, which reached 559 loggers, landowners, foresters, and road construction contractors.

## **Courtesy Exam Program**

The S.C. Forestry Commission's BMP Foresters, located in each of the three operating regions of South Carolina, offer courtesy BMP exams to landowners, foresters, and timber buyers. The BMP Forester makes site-specific BMP recommendations to follow while conducting forestry activities. During the 2000-2001 fiscal year, the BMP Foresters completed 285 courtesy exams. Of the 285 sites, 283 (99%) were completed in compliance with our recommended guidelines.

## **Endangered Species**

This year, the Environmental Management program continued training on endangered species biology and management, with an emphasis on those species that may impact forestry operations. The BMP Foresters are available to provide information and assistance to SCFC personnel, foresters, and private landowners. This assistance may include site visits, cooperating on the Safe Harbor program administered by the S.C. Department of Natural Resources, and assisting State Forests and other state-owned properties upon request. This year, the BMP foresters made 16 site visits to assist landowners and foresters with endangered species identification and information and presented information regarding forestry and endangered species to 6 groups, reaching 95 college students, forest landowners, foresters, and the public.

## **URBAN FORESTRY**

Urban forestry seeks to improve the quality of life in populated areas by providing direct technical assistance to municipal and county governments, educational institutions, non-profit conservation organizations, businesses and homeowners. This is accomplished by working through diverse and cooperative partnerships to protect, conserve and improve the management of community tree resources. Clean air, clean water, increased property value, energy conservation, improved aesthetics, noise buffering, and public safety are some of the products of these endeavors.

## **Urban and Community Forestry Grant Program**

The Urban and Community Forestry Grant Program is a national program funded by Congress through the U. S. Forest Service. South Carolina received \$150,000 in base funding to provide technical assistance and training. Three full-time urban foresters are responsible for providing that technical assistance on a regional basis for the Piedmont, Pee Dee, and Coastal regions of the state. Other Commission foresters provide urban forestry assistance in their respective areas on a time available basis. A full-time Grants Administrator works in the Columbia office along with the Urban Forestry Coordinator for statewide program management.

Pass-through grants in the amount of \$300,000 were provided to county and local governments, non-profit organizations, and educational institutions to assist in the establishment and enhancement of long-lasting urban forestry programs.

## **Partnership Development and Educational Programs**

Through the technical assistance of the urban and community forestry staff and utilization of grant funds, the urban forestry program strives to develop partnerships with a variety of organizations and units of local government. Often these partnerships result in educational programs about the benefits and importance of urban forest resources. During FY 01, the urban and community forestry staff and grantees developed partnerships with 147 organizations and presented 77 educational sessions to approximately 4,600 participants, both youth and adults.

## **Tree City/Tree Line USA**

Sponsored by the National Arbor Day Foundation, Tree City USA is administered in South Carolina by the SC Forestry Commission. The program seeks to stimulate and promote the management of urban and community trees by recognizing towns and cities which meet the following criteria: (1) establishment of a municipal tree ordinance, (2) expenditure of at least two dollars per capita on tree care and planting, (3) a legally constituted tree board or permanent staff, and (4) observance of Arbor Day by a mayoral proclamation and official ceremony. The SC Forestry Commission has recognized and awarded 26 municipalities and 3 military bases as a Tree City USA.

Another program sponsored by the National Arbor Day Foundation is Tree Line USA. The Tree Line USA program seeks to stimulate and recognize proper line clearing and safety techniques of private and public utility companies. In order to qualify as a Tree Line USA, a utility must meet three criteria: (1) Perform quality tree care regarding pruning, trenching and tunneling methods, (2) Provide opportunities for annual utility line worker training, and (3) sponsor an ongoing community tree planting program to include an Arbor Day celebration and at least one educational mailing to customers. The Forestry Commission recognized the Gaffney Board of Public Works as South Carolina's only Tree Line USA utility for the second consecutive year.

<b>Types of Technical Assistance</b>	<b>U&amp;CF Program Accomplishments Forestry Commission Regional Urban Foresters</b>		<b>U&amp;CF Program Accomplishments Sub-Grantees</b>
<b>Program Development/Expansion</b>	Total # of Customers	Total # of Assists	Total # of Sub-Grants Awarded
Municipal Governments	58	158	17
Non-Profit Organizations	29	55	5
Educational Institutions	25	48	4
State/County Governments	<u>20</u>	<u>41</u>	<u>9</u>
	132	302	35
<b>Public Vegetation Ordinances Passed or Revised</b>	NA		1
<b>Urban Forest Cultural Practices</b>			
Commercial / Business	250		
Residential	1,091		
Public Agency	<u>120</u>		NA
Total Assists (#)	1,461		
<b>Public Trees Inventoried</b>			
Street	NA		24,000
Park	NA		<u>170</u>
Total Trees Inventoried (#)			24,170
<b>Public Trees Planted</b>			
Saplings (<2" caliper)	80		807
Street / Park (>2" caliper)	<u>5</u>		<u>513</u>
Total Trees Planted (#)	85		1,320
<b>Public Trees Maintained (#)</b>	NA		1,311
<b>Demonstration Planting Projects</b>	8		16
<b>Partnership Development</b>	147		124
<b>Public Information/Education</b>			
Municipal	31		NA
Civic Organizations	10		NA
School/Youth Groups	<u>36</u>		NA
Total Programs (#)	77		
Total # of seat hours	10,121		128,106
Total # of people	4,600		7,568

## **FOREST STEWARDSHIP**

The Forest Stewardship Program is a cooperative effort among the USDA Forest Service, Forestry Commission, other natural resource agencies and organizations, forest industry, and private forest consultants in South Carolina to encourage the long-term stewardship of non-industrial private forestlands. Landowners are provided technical assistance by having a multiple-resource management plan developed for their property addressing their management objectives.

During Fiscal Year 2000-01, 238 Forest Stewardship plans were written in South Carolina on 63,717 acres. The Stewardship plans were written by the following cooperators: South Carolina Forestry Commission: 147 plans; Private Forest Consultants: 75 plans; and Forest Industry: 16 plans.

### **Stewardship Incentive Program**

Once landowners have an approved Stewardship Management Plan, they may be eligible to participate in the Stewardship Incentive Program (SIP). This is a federal cost-share assistance program to provide financial incentives to private landowners to carry out some of the management practices outlined in their Stewardship Management Plan.

Congress did not allocate any Federal funding for SIP during FY 00-01, therefore South Carolina did not receive any new funds to allocate towards this cost-share program.

## **FOREST INVENTORY AND MONITORING**

The Forest Inventory and Monitoring program is a cooperative program with the US Forest Service to collect forest inventory and forest health data from a network of permanent sample plots. There are 3,840 total forest inventory plots located in South Carolina. Plots are sampled in 20% increments of the total. Plots will be measured for growth projections, damage assessments, and land-use classification. The US Forest Service furnishes data analysis and reporting for this program.

The Forest Health Monitoring section of the program consists of approximately 210 total plots in South Carolina. Each year, during the summer, 20% of these plots will be measured for health, soil chemistry, and related parameters. In addition, separate bio-indicator sample plots will be inventoried to monitor the level of ozone pollution.

Currently, six full-time inventory crews are stationed throughout the state. The program coordinator is stationed in Columbia. All crew members are required to exceed a minimal accuracy average of 87% for all inventory plots. US Forest Service personnel conduct quality assurance and quality control checks to insure the accuracy of the field crews. During FY 2000-2001, average accuracy for all crews was 91.21%.

During FY 2000-2001, field crews finished Panels 3 and 4 collecting data from 1,346 forest inventory plots. Panel 5 was begun in May and should be completed by February 2002. Since the inception of the Forest Inventory program in 1998, field crews have collected inventory data on 3,261 plots or 85% of the total plots in the state. Data collection for health monitoring plots began in June and will be completed in August 2001.

Each year the USDA – Forest Service compiles efficiency ratios and rankings for all states in the Southern Region. The Forest Inventory program for S.C. ranked first in all categories and received the Director's Award for FIA Excellence for FY 2000.

## STATE FORESTS AND OTHER STATE LANDS

### MANCHESTER STATE FOREST

Manchester State Forest, located in Sumter and Clarendon Counties, is currently comprised of approximately 25,800 acres. From 1939 to 1955, Manchester was leased by the State of South Carolina from the federal government and managed by the South Carolina Forestry Commission. The State received title to the property on June 28, 1955.

#### Receipts For Operating Budget:

Activity	Receipts
Timber Sales	\$74,246.10
Pinestraw Sales	none
Land Lease Payments	\$26,309.50
Wildlife Management Area Payments	\$20,027.33
Special Use Permits	\$26,273.50
<b>Total</b>	<b>\$146,856.43</b>

Note: 25% of all forest receipts paid to Sumter County - \$36,714.11

Timber sales were concentrated on thinnings in overstocked stands and conversion of older slash pine stands to longleaf plantations.

#### Silvicultural Practices

Site preparation was completed on 300 acres that were prescribed burned and 34 acres of mechanical site preparation. These areas included stands that were previously planted but failed due to the drought. Five hundred fifty-eight acres were planted – 128 acres of improved coastal loblolly and 430 acres of containerized and bareroot longleaf pine.

The following species and number of trees were planted:

Bareroot Longleaf Pine	17,000
Containerized Longleaf Pine	192,300
Improved Coastal Loblolly Pine	68,000
<b>Total Trees Planted</b>	<b>277,300</b>

A total of 1,674 acres were prescribed burned for site preparation, wildlife habitat enhancement, hardwood control and fuel reduction. Drought conditions and smoke management concerns were the limiting factors in the completion of the proposed schedule of burning.

#### Forest Protection

Two wildfires occurred, burning less than 1 acre with minimal damage. Firebreaks were maintained on those areas that were either high risk or of high value. Manchester served as the incident command center for the bay fire on the U. S. Air Force's Gunnery Range.

## **Recreation/Education**

Recreational use of the forest continues to escalate over previous years. Hunting, fishing, horseback riding, motorcycle/ATV riding, mountain biking, and use of the rifle/pistol range continue to be favorite activities. Recreational trails have been marked and brochures printed. A shed was constructed to cover the rifle benches at the rifle and pistol range.

Six special-use permits were issued for organized events with approximately 1,500 participants.

Three (3) educational programs were conducted with the assistance of the forest staff and area personnel with approximately 100 individuals involved. Several training sessions were also held at Manchester for SCFC personnel; including law enforcement training and technician training.

## **Wildlife Management**

Approximately 23,000 acres of the forest are presently included in the Wildlife Management Area Program through a cooperative agreement between the Department of Natural Resources (DNR), and the South Carolina Forestry Commission. DNR provided technical assistance with game food plot establishment monitoring, deer herd dynamics, tracking various nongame and game species, and pond management. Law enforcement on the forest is provided through interagency cooperation with Department of Natural Resources. Manchester also hosted its annual youth dove hunt with approximately 35 participants. The Bland Tract as well as the Biedler Tract were opened for hunting under the WMA Program. The Biedler Tract also included opportunities for waterfowl in the 400 plus acre Biedler Green Tree Reservoir.

Planting and maintenance was conducted on 357 acres of wildlife areas. Corn, sunflowers, sorghum, browntop millet, benne, wheat, rye, clover, vetch and bicolor were utilized to diversify the food supply. Several of the plantings were donated by the Department of Natural Resources and planted by Manchester and DNR personnel.

## **Rare, Threatened, and Endangered Species Management**

Manchester currently maintains six (6) clusters of Red Cockaded Woodpecker. Colony sites continue to be monitored along with scouting for new cavity and start trees in cooperation with biologists from the neighboring Poinsett Gunnery Range (USAF). An agreement was reached with the USAF that would allow them to monitor and work on the colony sites only with prior agreement with the Manchester State Forest director.

## **Research**

Tentative agreements have been reached with Clemson University to establish hardwood research plots in the Wateree Swamp; however, actual proposals have yet to be presented.

Manchester also continues to cooperate with the SCFC Nursery Section by providing eight (8) sites for clone banks, seed orchards, and progeny tests.

## SAND HILLS STATE FOREST

Sand Hills State Forest (SHSF) covers approximately 46,000 acres, with 45,000 acres in Chesterfield County and 1,000 acres in Darlington County. The forest was operated under a use agreement with the federal government from 1939 until 1991. In July of 1991, title to Sand Hills State Forest was transferred to the South Carolina Forestry Commission.

Receipts for Operating Budget	
Activity	Receipts
Timber Sales	\$919,877.30
Pinestraw Sales	\$46,150.00
Land Lease Payments	\$2,044.00
Wildlife Management Area Payments	\$13,351.55
User Fees (includes permit sales from PRT)	\$16,735.17
<b>Total</b>	<b>\$998,158.02</b>

Since 1967, Sand Hills has been totally self-supporting. The only appropriated funds coming to Sand Hills are earmarked for the development of the H. Cooper Black Memorial Field Trial and Recreation Area.

Note: 25% of all receipts are paid to Chesterfield and Darlington County School Systems.

Chesterfield County Schools	\$243,550.56
Darlington County Schools	\$ 5,988.95
Total	\$249,539.51

## Silvicultural Practices

Site preparation for planting longleaf pine by disking and V-blading was completed on 1,051 acres. These areas were in slash pine that had stagnated. Bareroot longleaf seedlings were planted on 1,120 acres on SHSF. Containerized longleaf seedlings were planted on 37 acres on Sand Hills and 373 acres on Carolina Sandhills National Wildlife Refuge. Prescribed burning was done on 7,874 acres.

The following species and number of seedlings were planted:

Bareroot Longleaf Pine	560,000
Containerized Longleaf Pine	200,000
<b>Total</b>	<b>760,000</b>

In 1999 Sand Hills started a pinestraw enhancement program. Under this program, an individual from the general public can enter into a four-year agreement with the Forestry Commission to clear up land for pinestraw production. The individual agrees to eradicate 90% of all hardwoods on a tract of land using chemicals. In exchange, that person may harvest all the pinestraw that falls during the 4 years of the agreement. After the agreement expires, the acreage becomes part of SHSF's quality straw production program. The straw from these areas is offered for sale on a lump sum sealed bid basis at three-year intervals. Currently there are 16 individuals working on approximately 17,122 acres of land. The value of the pinestraw in the year 2005 will approach \$1,000,000.

This year Sand Hills started a program of vehicle registration for participants in the enhancement program. Sand Hills' personnel registered 130 vehicles during the last quarter of the year.

Pinestraw Enhancement Program		
Fiscal Year	Contracts	Acres
1999	15	4,565
2000	29	5,635
2001	25	6,922
<b>Total</b>	<b>69</b>	<b>17,122</b>

Sand Hills' personnel assisted Nursery and Tree Improvement section with longleaf pinecone collection. During the month of October, Sand Hills staff issued permits for gathering cones on the Forest and issued checks totaling \$1,785 for 357 bushels of cones.

Six Sand Hills' employees spent 480 hours gathering CFI (Continuous Forest Inventory) data. Results of the inventory will be complete soon.

## Forest Protection

One 13-acre wildfire occurred on Sand Hills this year. SHSF boundary lines and the road system are maintained as firebreaks and as access in case of wildfire.

## Recreation/Education

Recreational use of the Forest continues to escalate. Hunting, fishing, horseback riding, riding, mountain biking, hiking, bird watching and camping continue to be favorite activities.

ATV use was discontinued July 1, 1999 based on an opinion from the attorney general's office. Environmental studies and mapping continue on a planned 5,000-acre off-highway vehicle (OHV) trail. U.S. Fish and Wildlife Service must approve the OHV plan before it can be completed. U.S. Fish and Wildlife Service will possibly make a decision on the OHV trail in the fall.

The Headquarters Mountain Bike Trail continues to attract riders from the surrounding areas. Visitors from 6 states used the mountain bike trail. One hundred seven permits were issued for bike riding. This represents a 52% increase in bike permit sales.

At Sugarloaf Mountain, there are 7 primitive camping sites for family camping and 8 primitive equestrian campsites. Sand Hills' personnel booked 307 reservations for these sites this year. An estimated 3,456 visitors with 932 horses used the campsites and trails.

In the Cooper Black Recreation area, there are 11 camping sites for RV campers. These sites have electrical hookups and water access. A clubhouse, kitchen, horse barn, full size arena and dump station are available for use. Eight primitive campsites were created at Wood Duck Pond as well as a picnic shelter. Forty-one primitive campsites were established near the clubhouse and barn. Bahia grass was planted on 40 acres surrounding Goose Pond. One thousand more feet of tether lines were installed bringing the total to 2,500 feet. Ten more corrals were installed this year bringing the total to fourteen. Dog pens were constructed. Five hundred dogs can be housed in the new pens. A new well was installed.



Twenty-four events were scheduled at Cooper Black. Reservations for Cooper Black showed an increase from the previous year. Seven hundred eleven (711) reservations were booked. Reservations are required for campsites, stalls, corrals, training sites, arena, clubhouse, kitchen and grounds. Receipts from all reservations totaled \$17,951. Twenty five percent of the revenue will be distributed to Chesterfield and Darlington County School Systems. \$4,380.04 will be disbursed to Chesterfield County and \$107.71 will be disbursed to Darlington County.

#### Summary of Sand Hills State Forest Recreation Areas

Year	Cooper Black Reservations	Sugarloaf Reservations	Total	Cooper Black Visitors/Horses		Sugarloaf Visitors/Horses		Total Visitors/Horses*	
FY 1999	129	284	413	3,000	815	3,000	1,000	6,000	1,815
FY 2000	504	316	820	3,790	1,662	3,674	1,025	7,464	2,687
FY 2001	711	307	1,018	4,024	1,304	3,456	932	7,480	2,236

\*Number of Visitors and Horses does not include day users nor does it include visitors from any other user group.

Designated-use permit sales for trail use had a 46.4% increase this year. Sales increased from 573 permits in FY 2000 to 839 in FY 2001. Receipts from designated trail use permits totaled \$16,735.00.

Free-use permits are issued for camping at Sugarloaf Mountain, raking pinestraw for personal use, and gathering firewood. Sand Hills' staff issued 299 this year. Twenty of the permits were for raking pinestraw for personal use, 30 for gathering firewood, 3 for picking longleaf pinecones and the remaining 246 were for camping.

#### Sand Hills State Forest Permit Summary

Year	Trail-Use Permits	Free-Use Permits	Total
FY 1998	271	217	480
FY 1999	505	329	834
FY 2000	573	412	985
FY 2001	839	299	1,138

Sand Hills' personnel conducted 11 educational programs that involved approximately 247 children and adults. Several of the programs were held at Sand Hills and included a tour of the forest.

Francis Marion University frequently uses Sand Hills as a place to bring botany students for hands-on plant identification. Sand Hills' staff assisted with one of those classes this year.

The Governor's School of Science and Mathematics in Hartsville visited the Forest for a presentation on the red cockaded woodpecker and an overview of forest management practices.

A group of students from Warren Wilson College came to Sand Hills to learn more about the red cockaded woodpecker and forestry management.

Two scout groups spent time marking the bike trail and hiking trail.

The field portion of the Forestry Commission's prescribed burning school was conducted at Sand Hills.

## **Wildlife Management**

Approximately 40,000 acres of the Forest is included in the Wildlife Management Area Program. This is a cooperative agreement between the S.C. Department of Natural Resources and the S.C. Forestry Commission. Department of Natural Resources personnel provide assistance with the game food plot establishment, monitoring deer herd dynamics, tracking various game and non-game species, and pond management. Law enforcement on the forest is provided through interagency cooperation. Sand Hills has a 57-acre public dove field. Thirty-five acres of this field were planted to annual crops with the remainder planted and maintained in bicolor lespedeza. A new 30-acre public dove field was created near Patrick.

Eighty-two acres (125 plots) were planted as wildlife food plots. These plots were planted in chufa, corn, sunflower, spring game mix, dove mix, dove proso, wild turkey mix, quail mix, sorghum, and bicolor. All plantings were fertilized and limed at the recommended rates. All manageable bicolor patches in compartments 12, 13, and 17 were bushhogged, fertilized, and limed. One hundred mast-producing hardwoods were planted throughout the Forest.

Sand Hills' staff planted and maintained 12 wildlife openings for quail. The quail project is a joint project with Quail Unlimited. Quail Unlimited supplied \$1,000 worth of seed and fertilizer for the project.

Sand Hills continues to conduct surveys for South Carolina Department of Natural Resources. A furbearer scent survey, fox squirrel survey, turkey survey, and a quail survey were conducted to track population trends.

## **Rare, Threatened and Endangered Species Management**

There were 37 documented red cockaded woodpecker (RCW) nesting attempts on SHSF in 2001. Thirty-two produced a total of 65 young. Fifty-six fledglings were banded as a result of the nesting. The past two years we have started putting 3 bands on the RCW for identification. Five birds did not get banded due to the small size of the birds at the time of banding. We will attempt to band these birds during fledgling checks.

There were 12 artificial cavity boxes installed with plans to add more later in the year. Approximately 100 acres were roller chopped within RCW clusters. All new cavity trees were painted and tagged. The new trees are in the process of being mapped.

Fifty RCW clusters are located in pine straw enhancement areas. Most of the sites have been enhanced by removal of all hardwood understory through mechanical removal, herbicide, prescribed burning or a combination of the three methods.

Currently roosting checks on all fledglings are being conducted to provide data for the upcoming translocations throughout the forest.

## **Research**

A longleaf pine natural regeneration research project in conjunction with the U.S. Forest Service is ongoing and has been in effect for 25 years.

A professor from Clemson University set up a turkey litter/water quality survey on the forest in 1999. The study will last four years.

A sludge research project is ongoing. A four-year cycle that was started in 1999 continued this year. Turkey litter was added to the study site for comparison with sludge and commercial fertilizer applications and their effects on tree growth and soil chemistry.

## **STATE LANDS MANAGEMENT PROGRAM**

The State Lands Forest Management Program was created to provide professional forest management assistance to South Carolina state agencies that own timberlands. During fiscal year 2000-2001, two agencies requested assistance from the state lands coordinator. The agencies and facilities were as follows:

### **Department of Natural Resources**

- Webb Wildlife Center
- Donnelley Wildlife Management Area
- Mason Wildlife Management Area
- Thurmond Wildlife Management Area

### **S.C. Department of Corrections**

- McDougall Correctional Institute
- Wateree Prison Farm

### **Timber Revenue**

Five state-owned tracts were marked or cruised for timber sales and produced an estimated volume of 634,523 board feet of sawtimber and 4,380 cords of pulpwood valued at \$145,302

## FOREST PROTECTION

The Forest Protection Section was formed on August 17, 1999. The section encompasses the Fire Management Program, Law Enforcement Program, Forest Health (formerly Insect & Disease) and the Equipment Program.

### FIRE MANAGEMENT

*Area protected: 12,807,924 acres. Area protected is based on 1993 Forest Survey data for non-federal forest land, plus 10% to cover adjacent non-forest land. Also included is 101,320 acres of federal land protected under special contract. Mutual aid is provided on 808,701 acres of additional federal land.*

### Wildfire Summary

Agency firefighters recorded 5,283 wildfires during the fiscal year. These fires burned a total of 29,933.9 acres of forest and grassland.

The largest blaze was the Pinewood Fire, which burned 3,684 acres in Sumter County's Big Bay. This is the 10th largest fire on record, and the largest since the Clear Pond Fire of 1976.

### Fire Protection Cooperatives

The Forestry Commission has cooperative arrangements with 11 fire and emergency management entities. Activities for each cooperative during FY 2000-01 are as follows:

**Southeastern States Forest Fire Compact Commission:** Formed in 1954, the Compact allows member states to provide and receive mutual aid in fighting wildland fires. Member states include: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia. The Forestry Commission responded to requests from Florida, Kentucky, and Texas during the year.

**SC Division of Emergency Preparedness:** There were no emergency activations during the year. Staff foresters participated in several EPD emergency response training sessions.

**SC Army National Guard:** Under an agreement with the National Guard, helicopter firefighting support is available when requested by SCFC. Requests from SCFC are channeled through EPD and the Governor's Office to activate the Guard.

The Guard's primary firefighting mission is providing helibucket service to SCFC Incident Commanders using SCFC's 780-gallon Bambi buckets. Two Guard helicopters responded to a fire in Sumter County this year. Guard helicopters are also available to transport firefighters into rough or inaccessible terrain.

**Volunteer Fire Assistance Program:** Federal funds for this program have decreased significantly over the past few years. During the year, 84 fire departments received matching-fund grants totaling \$46,500.

**Federal Excess Property Program:** One hundred thirty one pieces of federal excess equipment were loaned to fire departments during the year. At present, 1,241 pieces of equipment are assigned to 388 departments statewide.

**National Weather Service:** NWS provides daily fire weather forecasts and atmospheric dispersion information. During the year, SCFC and NWS worked to improve content and timing of daily forecasts.

**USDA Forest Service:** Under the terms of a 1996 contract, the SCFC provides aerial wildfire detection on 617,971 acres of National Forest land and 198,000 of Savannah River Site land in SC. A mutual aid agreement between the US Forest Service and SCFC allows both parties to provide initial attack firefighting within one-quarter mile of National Forest boundaries.

SCFC provided initial attack on a number of fires on the Francis Marion National Forest during the spring fire season, and SCFC investigators assisted with wildfire investigation and stake-outs.

**DOD Corps of Engineers:** Beginning in 1997, SCFC has provided all fire suppression services on 55,320 acres of Corps of Engineers land. Under the terms of the agreement, actual fire suppression costs are reimbursed to the SCFC.

**USDI Fish and Wildlife Service:** Under the terms of a 1992 land acquisition agreement, SCFC provides initial attack fire suppression on the 46,000 acre Carolina Sandhills National Wildlife Refuge. The agreement terminates in 2042. SCFC maintains mutual aid firefighting agreements with the following National Wildlife Refuges: Ace Basin, Cape Romain, Savannah, Pinckney Island, and Santee.

**USDI Park Service:** Agreement maintained; no reportable activity.

**Wildland Fire Protection Partnership:** Organized in 1991, the Partnership seeks solutions to wildfire management problems in the wildland-urban interface. Membership includes the SC Forestry Commission, US Forest Service, SC Firemen's Association, Department of Health and Environmental Control, SC Division of Emergency Preparedness, SC Fire Marshal, SC Fire Academy, and SC Forestry Association (ex officio).

During the year, the Partnership concentrated on developing wildland fire training opportunities for Fire Departments. Delivery systems were developed to provide national courses in wildland-urban interface fire operations and basic wildland firefighting.

## Fire Weather

**Weather Stations:** The Forestry Commission, USDA Forest Service, National Park Service, Department of Defense (Ft. Jackson), and USDI Fish and Wildlife Service share a network of 12 Automated Weather Stations across the state. Data from these stations are used in daily calculations for the National Fire Danger Rating System. Weather readings from these stations are available 24 hours a day for wildfire and prescribed fire management purposes.

### Inches Precipitation: FY 2001\*

Month	Precipitation
July 2000	5.33
August	4.17
September	6.44
October	.04
November	3.94
December	1.93
January 2001	2.22
February	2.55
March	6.38
April	1.18
May	2.20
June	4.18
<b>Total</b>	<b>40.56</b>

\*measured by NOAA and the SC Climatology Office, averaged for state.

### Precipitation Last 5 Years\*

Fiscal Year	Precipitation Inches	Departure from Normal**
1996-97	50.62	-0.05
1997-98	62.62	+11.95
1998-99	42.83	-7.84
1999-00	42.24	-8.43
2000-01	40.56	-9.07

\* measured by NOAA and SC Climatology Office, averaged for state

\*\*statewide weighted normal, based on previous 30 years

**Readiness Plan:** The daily readiness level of Forestry Commission firefighters is based on fire danger data, available number of firefighters, and status of firefighting equipment. Average statewide readiness levels for FY 2001 are as follows:

Readiness 1 (No wildfire danger)	20 days
Readiness 2 (Low wildfire danger)	117 days
Readiness 3 (Moderate wildfire danger)	200 days
Readiness 4 (High wildfire danger)	21 days
Readiness 5 (Extreme wildfire danger)	7 days

**Burning Ban and Red Flag Fire Alert:** A State Forester's Burning Ban was declared for portions of Orangeburg and Dorchester Counties during the period December 9-11. The Ban was in response to smoke-related highway hazards.

A Red Flag Alert was declared in Anderson, Greenville, Oconee, and Pickens Counties on March 25. The Alert was removed the following day. A statewide Red Flag was in effect for the period March 16-23 due to high wind and low humidity. Another statewide Red Flag was declared for the period May 18-21, primarily due to low fuel moisture and wildfire control difficulties.

### Dispatch and Air Operations

**Dispatch:** Forestry Commission dispatch is by closest available resource, regardless of political or administrative boundaries. Dispatching was handled by Region Dispatch Centers located in Walterboro, Florence, and Newberry.

**Air Operations:** Specially trained private aerial contractors provide basic wildfire detection services. Eight Forestry Commission pilots equipped with Federal Excess planes provide incident reconnaissance as well as additional detection service.

During the year, SCFC pilots flew a total of 2,018 hours; contractors flew a total of 3,240 hours.

### Prescribed Fire

**Certified Prescribed Fire Manager Program:** Three Certified Prescribed Fire Manager Schools were conducted during the year. Interest in this program continues to be high, with 143 participants during the year.

### Prescribed Burning for Forestry, Wildlife, and Agriculture

Region	Forest Understory		Forestry Site Prep.		Wildlife		Agriculture	
	Number	Acres	Number	Acres	Number	Acres	Number	Acres
Coastal	2,437	179,137.9	2,781	8,212.3	504	52,558.9	4,167	66,297.4
Pee Dee	1,692	80,303.1	1,922	8,755.2	247	19,673.1	4,039	76,868.2
Piedmont	418	46,941.4	340	8,757.1	31	1,863.0	609	6,358.3
<b>Totals</b>	<b>4,547</b>	<b>306,382.4</b>	<b>5,043</b>	<b>25,724.6</b>	<b>782</b>	<b>74,095.0</b>	<b>8,815</b>	<b>149,523.9</b>

### Fire Prevention Information

**Wildland-Urban Interface:** Significant federal grants were made available during the year to combat fire problems in the wildland-urban interface. Forestry Commission personnel delineated five areas for initial study and wildfire prevention/mitigation efforts. The areas are representative of various terrain, fuel, and development types. A computerized wildfire hazard analysis system was designed to evaluate developments within the designated areas.

### Fires By Cause

Cause	Number	Acres Burned	Average Acres per Fire	Percent Total FY 00
Lightning	118	1,719.5	14.6	2
Campfire	29	180.7	6.2	1
Smoking	167	1,078	6.5	3
Debris Burning	2,455	10,482.9	4.3	46
Incendiary	1,417	8,677.4	6.1	27
Equipment	301	1,419.1	4.7	6
Railroad	55	241	4.4	1
Children	290	634.5	2.2	5
Miscellaneous	451	5,500.9	12.2	9
<b>TOTALS</b>		<b>5,283</b>	<b>29,933.95.7</b>	<b>100</b>

### Five-Year Summary: All Fires

Fiscal Yr.	Acres Protected	# Fires	Acres Burned	Av.Acres/Fire	% Area Burned
1996-97	12,807,924	3,204	21,730.7	6.8	0.17
1997-98	12,807,924	1,943	10,425.1	5.4	0.08
1998-99	12,807,924	6,615	35,155.5	5.3	0.27
1999-00	12,807,924	4,715	21,399.3	4.5	0.17
2000-01	12,807,924	5,283	29,933.9	5.7	0.23
<b>Five Year Averages</b>		<b>4,352</b>	<b>23,728.9</b>	<b>5.5</b>	<b>0.18</b>

## Acres Protected and Total Burning Notifications by County

<b>County</b>	<b>Acres Protected</b>	<b>Dispatch Center. Notifications</b>	<b>Voice Mail Yard Debris</b>
Abbeville	202,645	510	2,565
Aiken	455,540	1,693	12,685
Allendale	178,794	484	922
Anderson	214,724	1,794	11,543
Bamberg	182,062	470	1,314
Barnwell	147,093	668	3,223
Beaufort	136,739	1,016	7,156
Berkeley	390,299	1,879	16,541
Calhoun	168,997	488	2,456
Charleston	244,385	1,248	8,339
Cherokee	165,386	607	3,843
Chester	307,154	493	3,157
Chesterfield	350,594	944	7,220
Clarendon	241,314	906	3,660
Colleton	502,776	1,753	13,771
Darlington	206,641	625	5,018
Dillon	158,914	468	4,053
Dorchester	283,205	942	12,312
Edgefield	238,766	417	2,308
Fairfield	409,985	347	2,242
Florence	322,779	1,255	10,019
Georgetown	417,150	979	8,747
Greenville	271,893	2,470	17,690
Greenwood	212,203	569	3,384
Hampton	279,511	1,127	4,168
Horry	492,064	2,803	18,911
Jasper	329,574	986	3,321
Kershaw	413,527	627	13,977
Lancaster	289,284	449	6,932
Laurens	325,714	620	5,038
Lee	149,375	390	1,181
Lexington	280,985	2,176	43,287
Marion	203,906	442	8,558
Marlboro	140,099	350	5,732
McCormick	239,275	211	1,101
Newberry	254,485	643	3,063
Oconee	226,058	1,292	9,269
Orangeburg	438,154	1,946	7,842
Pickens	233,056	1,220	8,118
Richland	280,398	1,713	8,387
Saluda	203,906	482	1,442
Spartanburg	289,043	1,983	7,470
Sumter	258,685	987	9,641
Union	229,078	178	450
Williamsburg	450,241	1,352	4,624
York	290,432	1,715	11,281
Federal Land	101,320		
<b>Total</b>		<b>46,717</b>	<b>347,961</b>
<b>Grand Total All Notifications Received:</b>			<b>394,678</b>



## Total All Land Fires by County and Month, Fiscal Year 2001

	2000												2001												Total No.	Total Acres
	July		August		September		October		November		December		January		February		March		April		May		June			
County	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres		
Abbeville	15	106.8	2	40.3			2	9			5	7.3	8	16.5	9	8.6	11	9.4	1	0.5	2	4.5	1	0.4	56	203.3
Aiken	15	29.9	3	3.6	5	3.8	10	15.1	6	4.8	9	72.6	21	93.8	9	27	16	34.1	24	60.5	9	29.4	8	10.2	135	384.8
Allendale	13	362.2			1	5	1	10	1	0.1			1	14	4	38.5	1	0.5	3	12.3	3	1.9	2	4.1	30	448.6
Anderson	6	10.2	3	29	2	1.5	2	5			2	13.5	7	93.5	5	7.3	7	33.1	8	22.2	4	9.5			46	224.8
Bamberg	3	7.2	2	0.2			8	14.4	4	1.5	7	24	13	92.6	5	24.4	3	2.2	4	0.6	6	34.5	4	11.4	59	213
Barnwell	2	1.6	1	1			4	5.1	2	30.2	2	0.6	9	47.3	9	29.4	2	0.8	9	24.1	6	12.3	1	0.1	47	152.5
Beaufort	8	22	1	1			3	25.4	10	87.2	10	54.1	12	43.1	10	29	7	49	12	104.2	13	153	7	86.1	93	654.1
Berkeley	11	38.1	2	0.2	1	1.5	16	162.6	31	169.8	21	63.3	40	122	39	197	37	274.7	44	376.5	37	176.1	3	12	282	1593.8
Calhoun	2	5.2	1	0.1			5	3.5	3	6.2	4	13.3	9	28	6	14.5	5	5.5	4	7.2	8	45.1			47	128.6
Charleston	9	52.8	2	3.1			14	81.4	19	101.6	14	233.1	12	63.5	14	62.1	8	97.5	18	95.2	18	107.9	7	164	135	1062.2
Cherokee	6	56.5	1	5			10	18.7	2	21	1	165	4	74	2	30.5	12	78	11	27.3	10	52.9			59	528.9
Chester	1	4	1	2							1	2	6	41	5	10.5	3	32	10	54.6	6	14.3	1	3	34	163.4
Chesterfield	14	16.1	5	25.2			17	24.5	2	4.2	12	84.9	31	306.8	12	24.6	13	42.9	27	309.8	25	140.7	7	128	165	1107.7
Clarendon	12	35.8	7	34.3	1	1	7	45.4	12	18.1	17	50.5	33	274.7	35	103.7	22	112.6	26	105.9	19	60.8	1	1	192	843.8
Colleton	19	79.3	2	0.3	1	0.5	15	49.9	11	27.5	22	75.6	36	186	40	377.8	15	94	28	51.5	27	212.1	7	11.1	223	1165.6
Darlington	9	35.2	3	2.5			15	76	10	13.8	17	78	28	138.1	27	171.8	9	28	23	156.2	21	47.8	6	22.7	168	770.1
Dillon	4	17	3	2.1			1	0.1	2	2.5	5	5.9	15	68.6	11	50.5	4	10	11	80.5	18	47.5	5	3.4	79	288.1
Dorchester	6	6.7	1	0.1	1	0.2	3	1.6	8	74.8	10	29.1	21	87.7	13	46.5	5	14.7	13	20.7	19	118.3	2	2.1	102	402.5
Edgefield	3	0.5							1	0.4	1	0.3	2	5	7	13.3	2	1.2	2	0.6	2	0.4	1	0.2	21	21.9
Fairfield	5	84.1	3	31.1			7	4.2			3	2.4	14	30.9	6	30.9	10	34.4	14	125.7	8	21.5	1	2	71	367.2
Florence	6	15.2	5	5.2	2	1.5	8	4.2	23	65.6	32	57.1	50	402.7	44	164.7	22	101.7	38	177	47	191.3			277	1186.2
Georgetown	5	188.5					3	1.3	10	17.6	6	26.6	28	125.3	22	64.2	14	52.1	33	163.4	34	169.1	6	14.3	161	822.4
Greenville	8	34	1	4			9	75	3	4	2	3.2	10	86.3	4	17.7	11	49	10	66.3	8	11.7			66	351.2
Greenwood	11	64	1	0.5	1	0.1	6	2.9	1	0.1	6	7.2	15	14	4	8.8	4	35.6	8	6	8	2.4	1	0.1	66	141.7
Hampton	11	385.4	6	4.6	1	0.1	13	6.9	5	7.5	6	3.6	20	29.8	16	35.6	15	28.3	18	52.2	6	5.2	7	9.2	124	568.4
Horry	11	32	2	4	1	5	15	33.8	17	59.8	12	47.7	26	80.9	24	121.8	16	166.7	36	179.8	50	152.2	6	42.2	216	925.8
Jasper	14	247.2	4	4.5	1	5	6	12.8	10	11.5	13	81.8	25	281.3	18	200	21	224.5	10	21	37	571.5	7	8.7	166	1669.8
Kershaw	7	22.5	5	12.7	1	10	16	18.1	15	103.7	8	67.3	15	144.6	21	96	22	93.9	15	124.9	13	32.9	8	11.4	146	738
Lancaster	4	3.5	4	13.5	1	0.2	2	34	3	7.3	6	17	17	69.2	7	14.1	9	23.3	11	27.4	7	11.3	3	1.2	74	222
Laurens	5	14	1	8	1	1					3	9.5	4	8	10	49	9	21.6	16	97.5	3	27			52	235.6
Lee	7	15.5	9	25.9	1	3.5	9	7.2	8	51.1	11	41.5	23	277.5	14	112.8	11	98.5	15	117.3	6	18.2	3	14.5	117	783.5
Lexington	28	16	15	8.2			14	4.8	13	12.9	30	119.9	41	53.1	26	65.4	35	28.5	42	32.3	46	29.7	10	6.3	300	377.1
Marion	2	4.5	1	0.1	2	11	5	2.5	2	3.5	3	4.1	17	105.8	4	3.1	4	21.5	11	41.7	13	53.9	1	25	65	276.7
Marlboro	3	1.1	4	8.9	1	1	5	19.5	8	28.2	7	17.1	17	74.3	12	7.7	23	52.1	16	58.6	16	182.5	1	0.1	113	451.1
McCormick	1	3			1	0.5	5	16.6			1	0.4	3	3.8	2	1.1	4	98	1	0.2	1	0.2	1	0.2	20	124
Newberry	4	4.5	1	0.5	1	10	3	4.2					3	9.5	7	29	10	34.7	2	3	7	13.7	1	1.5	39	110.6
Oconee	4	2.4	2	4	1	0.2	10	25.6	4	8.8	3	8.2	5	5.7	5	26.6	5	6	12	39.7	12	7.9	4	26.5	67	161.6
Orangeburg	14	42.7	9	30	2	2	19	69.5	19	41.7	23	130.8	55	307.7	26	205.4	24	127.5	38	151.6	32	65	6	25.3	267	1199.2
Pickens	2	12.2	2	1.5	3	0.8	9	11.3	5	2.3	7	4.1	10	21.2	11	20.5	14	62.6	10	15.4	3	7.6			76	159.5
Richland	8	60.5	3	6			8	22.5	5	20.5	5	33.7	9	33.7	7	65.5	11	155.2	12	27.4	18	42.9	3	2.8	89	470.7
Saluda	3	0.3	1	6			8	53.7	1	0.5	3	25.1	4	4.2	1	0.7	9	52.4	3	10.4	3	2.2			36	155.5
Spartanburg	12	11.3	2	4			2	2			1	3	4	16	5	17.2	8	39.1	11	39	5	11	1	11	51	153.6
Sumter	10	124.7	8	12.2	4	9.1	12	86.7	7	51.2	14	50.5	34	135.2	22	183	21	61.2	22	3761.1	17	138.3	5	55.6	176	4668.8
Union	3	2.5	7	6.5			5	10					11	16.5	3	12	6	31	5	10	6	16	1	2	47	106.5
Williamsburg	11	87.2	4	1.4	2	8	19	135.2	19	108.2	29	123.6	80	668.7	52	378.5	38	223.8	76	1027	41	151.4	8	98.1	379	3011.1
York	3	10	5	7.7			3	32.1	3	3.1			7	19	3	11	9	19.5	9	14.6	6	19.7	1	2	49	138.7
Grand Total	36	2,3759	145	361	39	82.5	354	1,244.3	305	1,172.8	394	1,858.5	855	4,821.1	638	3,209.2	567	2,862.8	772	7,900.7		3,225.2	148	819.8	5283	29,933.9

## Total All Land Fires by County and Cause, Fiscal Year 2001

County	Lightning		Campfire		Smoking		Debris Burning		Incendiary		Equipment Use		Railroad		Children		Miscellaneous		Total No.	Total Acres
	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres	No.	Acres		
Abbeville	4	41.2	1	0.5	3	2.3	16	20.3	3	5.5	11	28.1	1	0.3	9	10.4	8	94.7	56	203.3
Aiken	8	20.3					62	198.0	29	40.1	4	71.0			17	19.7	15	35.7	135	384.8
Allendale	4	265.1			3	6.8	7	44.8	9	59.6	3	10.2	1	0.1			3	62.0	30	448.6
Anderson			3	12.0	7	88.7	18	63.8	3	17.0					1	1.0	14	42.3	46	224.8
Bamberg	2	0.2			1	20.0	32	55.6	9	11.2	8	60.2			2	15.0	5	50.8	59	213.0
Barnwell					1	3.0	14	55.2	10	48.7	3	4.5			2	1.7	17	39.4	47	152.5
Beaufort	1	60.0					51	281.1	30	239.9	2	6.0			6	52.1	3	15.0	93	654.1
Berkeley	3	13.0	1	30.0	7	4.8	121	571.7	107	853.2	11	5.7	5	60.6	9	11.0	18	43.8	282	1593.8
Calhoun	1	5.0			2	7.0	31	87.0	3	12.0	5	12.2			3	3.2	2	2.2	47	128.6
Charleston	2	156.0					59	293.7	66	548.3	2	15.1	2	27.0	2	1.1	2	21.0	135	1062.2
Cherokee			2	32.0	2	27.0	16	133.5	11	179.0	8	70.0	1	2.0	5	21.0	14	64.4	59	528.9
Chester					5	20.1	15	89.0	5	39.0	4	4.3			4	6.0	1	5.0	34	163.4
Chesterfield	14	181.3			12	64.6	80	523.7	31	252.4	10	36.7			7	27.7	11	21.3	165	1107.7
Clarendon	5	50.6			1	0.5	91	320.5	79	436.2	7	18.0	1	5.0	2	3.7	6	9.3	192	843.8
Colleton	7	24.2			4	12.1	125	647.9	60	383.6	10	65.7	3	2.3	4	4.2	10	25.6	223	1165.6
Darlington			1	6.0	1	2.0	88	310.9	59	337.2	10	62.3			2	3.5	7	48.2	168	770.1
Dillon	2	7.0	3	8.4	4	11.5	35	145.0	22	99.0	5	5.0			3	4.2	5	8.0	79	288.1
Dorchester							57	276.1	31	101.2	5	4.6			5	16.2	4	4.4	102	402.5
Edgefield	1	0.1					9	10.4	1	0.3	2	5.1			2	2.2	6	3.8	21	21.9
Fairfield	8	93.2			4	21.1	28	100.7	7	1.7	11	137.9	1	2.0	2	5.3	10	5.3	71	367.2
Florence	2	1.2			5	17.2	139	437.5	104	664.5	11	18.9	1	4.0	8	7.8	7	35.1	277	1186.2
Georgetown	1	0.1			1	0.1	73	398.2	70	289.3	5	10.3			4	51.0	7	73.4	161	822.4
Greenville	3	10.0	1	1.0	3	7.0	26	141.5	1	15.0	7	8.7			7	25.0	18	143.0	66	351.2
Greenwood	3	0.3			5	59.3	23	32.8	4	1.7	3	8.1	1	0.1	11	9.8	16	29.6	66	141.7
Hampton	5	40.8	1	1.5			54	410.8	43	95.8	10	4.9	1	0.4	5	10.0	5	4.2	124	568.4
Horry	2	32.0	1	2.0	2	5.5	91	295.1	92	492.1	5	24.3	3	20.0	10	27.7	10	27.2	216	925.8
Jasper	11	516.7					73	455.4	73	669.4	5	22.5	1	2.0			3	3.8	166	1669.8
Kershaw	6	43.3	1	0.5	14	90.1	65	281.9	8	21.3	17	206.7	1	16.0	10	6.1	24	72.1	146	738.0
Lancaster	1	1.0			4	17.0	39	105.0	10	29.3	3	8.0	1	3.0	5	1.4	11	57.3	74	222.0
Laurens			1	15.0	3	4.0	26	118.5	9	52.1	1	1.0	4	6.5	4	11.0	4	27.5	52	235.6
Lee					1	5.0	58	377.6	46	278.2	6	106.0					6	16.7	117	783.5
Lexington	4	2.1	2	3.2	13	16.0	129	185.0	22	28.4	25	25.8	5	1.6	53	46.7	47	68.3	300	377.1
Marion					4	32.3	24	93.6	16	113.3	3	5.5	4	12.8	2	5.0	12	14.2	65	276.7
Marlboro	3	104.0			2	15.1	44	159.2	45	131.6	9	9.9	3	21.1	4	6.1	3	4.1	113	451.1
McCormick	1	3.0			1	16.0	7	2.9	1	25.0	4	72.7			2	0.7	4	3.7	20	124.0
Newberry	3	3.0	1	1.5	2	1.0	13	36.6	4	13.1	3	10.5	1	1.0	1	0.5	11	43.4	39	110.6
Oconee	1	12.0	2	25.0	3	4.1	23	66.8	18	27.2	1	2.0	3	6.8	3	2.0	13	15.7	67	161.6
Orangeburg	2	0.2	3	30.0	20	65.7	156	565.7	43	313.7	14	92.7	1	4.0	20	63.5	8	63.7	267	1199.2
Pickens	2	12.1			6	8.4	45	94.5	6	2.8	2	9.0			4	10.7	11	22.0	76	159.5
Richland					3	40.3	32	89.8	18	95.0			2	7.0	15	24.2	19	214.4	89	470.7
Saluda					2	50.5	16	36.4	3	16.1	8	18.7			2	1.1	5	32.7	36	155.5
Spartanburg			2	5.1	1	1.5	22	87.2	5	12.0	4	10.0			8	17.0	9	20.8	51	153.6
Sumter	1	0.2			1	2.1	103	539.3	48	319.5	5	34.5	1	8.2	8	15.3	9	3749.7	176	4668.8
Union	1	1.0	1	0.5			21	40.5	2	1.5	4	16.0	3	21.5	3	3.0	12	22.5	47	106.5
Williamsburg	4	19.3	1	0.5	14	328.3	170	1118.1	147	1293.1	23	60.3	2	0.2	9	66.2	9	125.1	379	3011.1
York			1	6.0			28	84.2	4	11.5	2	9.5	2	5.5	5	13.5	7	8.5	49	138.7
<b>Grand Total</b>	<b>118</b>	<b>1,719.5</b>	<b>29</b>	<b>180.7</b>	<b>167</b>	<b>1,078.0</b>	<b>2,455</b>	<b>10,482.9</b>	<b>1417</b>	<b>8,677.4</b>	<b>301</b>	<b>1,419.1</b>	<b>55</b>	<b>241.0</b>	<b>290</b>	<b>634.5</b>	<b>451</b>	<b>5,500.9</b>	<b>5,283</b>	<b>29,933.9</b>

## **FOREST HEALTH**

The Forest Health Program, in cooperation with the State Division of Plant Industry and the U.S. Forest Service, maintains a program to detect, evaluate, and suppress forest pests. Through cooperative agreements, these agencies make their technical assistance and advice available to the Forestry Commission.

The current forest pest detection and reporting system involves the reporting by field foresters of forest pests that are causing abnormal losses, require control action, or which may present new problems. Aerial surveys are made periodically for specific pests to determine occurrence and the need for suppression action.

### **Major Insect Problems**

#### **Southern Pine Beetle**

The Southern Pine Beetle outbreak which began in York County in 1997 continued to intensify and spread. As of June 30, 2001, the outbreak contained 16 counties in the Piedmont Region. These were Cherokee, Chester, Edgefield, Greenville, Greenwood, Laurens, Lexington, McCormick, Newberry, Oconee, Pickens, Richland, Saluda, Spartanburg, Union, and York. Some beetle infestations were greater than 20 acres in size.

Losses to the beetle were well above the yearly average of \$7.8 million per year. During the year SCFC foresters and technicians sketch-mapped 17,742 beetle spots containing 3,237,332 trees. These infested trees had an estimated volume of 184,603 cords and 129,139 thousand board feet. The green stumpage value lost to beetles was \$45,486,015. The Forestry Commission continued in a cooperative suppression project with the U.S. Forest Service.

During the spring, 31 counties were pheromone-trapped for prediction of Southern Pine Beetle population trends. Of the counties trapped, Cherokee, Lexington, and Pickens were predicted to experience a severe outbreak. Six additional counties recorded trap catches sufficient to receive a prediction of high populations. These were Greenwood, McCormick, Newberry, Oconee, Spartanburg, and York. Another ten counties are expected to have moderate beetle activity. These include Abbeville, Anderson, Chester, Edgefield, Greenville, Kershaw, Lancaster, Laurens, Saluda, and Union. Other counties, mostly in the coastal plains, are not expected to have significant beetle problems.

Personnel are currently flying 100% surveys in infested areas and notifying affected landowners of beetle infestations on their property. Unfortunately, the statewide pulpwood market is depressed and salvage of infested trees is at a historical low. A significant number of beetle spots have been treated with the cut and leave technique. While this technique controls most infestations, it represents a cost to the landowner.

### **Major Disease Problems**

#### **Oak Wilt**

Oak wilt disease has been identified in Aiken, Barnwell, Chesterfield, Kershaw, Lancaster, Lee, and Richland counties. Except for the recent discoveries in Aiken and Barnwell Counties the disease appears to be static and causing losses only to low value oaks. Since there is potential for loss of valuable trees, including urban trees, periodic surveys are made to evaluate the spread.

#### **Dutch Elm Disease**

Dutch Elm disease has been confirmed in Aiken, Anderson, Cherokee, Chester, Chesterfield, Edgefield, Fairfield, Greenville, Greenwood, Kershaw, Lancaster, Laurens, Lexington, Marlboro, Newberry, Oconee, Pickens, Richland, Saluda, Spartanburg, and York counties. It is expected to gradually spread through the state because the primary agent of spread is the smaller European elm bark beetle which occurs statewide.

#### **Dogwood Anthracnose**

In 1988 a new anthracnose disease of dogwood was noted for the first time in South Carolina. This disease is caused by the fungus *Discula destructiva*. Symptoms include foliage blighting, canker formation, and progressive deterioration. Infected

trees usually are killed by the fungus in 2-3 years. At this time infected trees have been found in Anderson, Greenville, Laurens, Oconee, Pickens, and Spartanburg counties. As part of a southwide effort, the Forestry Commission has established 19 permanent plots in the counties known to harbor infections of the fungus. The dogwoods in those plots will be monitored periodically to determine the rate of spread of this potentially devastating disease.

### **Miscellaneous Insect and Disease Checks**

Commission foresters made approximately 1,097 field checks of insect and disease problems and made recommendations for prevention and control. Other inquiries were handled by telephone, mail, and personal contact.

### **Insect and Disease Laboratory**

During Fiscal Year 2000-2001, the Insect and Disease Laboratory processed 79 samples. These were submitted for analysis by Commission employees and private individuals. Recommendations for control of various pests identified were given where needed. In addition to these samples, 62,494 southern pine beetles and 48,477 clerid were counted in the lab. Insect and disease collections from six Ranger-Technicians were processed for training purposes.

### **Forest Health**

The SCFC entered into agreement with the USFS to evaluate permanent Forest Health plots throughout South Carolina. This was done by the Management Section and reported there. As another part of this program, the Forestry Commission also received additional funding for off-plot activity to survey for and report on other forest insects and diseases.

In conjunction with the spring 20% beetle survey, the entire state was surveyed for defoliation, beaver damage, and fire damage.

Major defoliation occurred this year due to an outbreak of Forest Tent Caterpillar. Larvae of this insect defoliated gum and other bottomland hardwoods over 168,835 acres in 14 counties. Defoliation occurred until late May at which time the insects pupated and became adults. The most impacted areas were along the Congaree, Wateree, Upper Santee, and Pee Dee basins.

Timber losses due to beaver impoundment and feeding were seen on a total of 6,890 acres. Fire mortality was detected on 4,560 acres. The estimated value of damaged timber was \$5.1 million.

## **EQUIPMENT**

The Equipment Program is responsible for development and implementation of statewide activities concerning use, design, and maintenance of specialized forest fire control equipment.

The program provides technical assistance and advice to repair shops, developing specifications for fire suppression equipment and motor vehicle fleet, and arranging training for all field mechanics.

All regular and specialized fire suppression equipment is modified and processed for field use at the Commission's Central Repair Shop. The Central Repair Shop personnel made numerous repairs to Forestry Commission vehicles and equipment and manufactured fire suppression equipment. Following are some of the major accomplishments of the Central Repair Shop:

- Serviced and maintained vehicles/equipment assigned to Columbia Office/Shop Complex, Richland and Lexington Counties
- Provided maintenance assistance to the Region Repair Shops
- Processed new motor vehicle equipment

Maintenance facilities at the Regions, State Forests, Taylor Nursery, Neiderhof Seed Orchard and Central Repair Shop were all certified by the State Fleet Management.

## **Equipment Purchased**

### **Coastal Region**

- One (1) 2001 Ford 3/4 ton truck 4x4 (Supervisor Mechanic)
- One (1) Boaz 25-ton lowbed trailer (Hampton County)
- Five (5) 2001 Dressta crawler tractors (Beaufort, Berkeley, Colleton, Jasper and Bamberg Counties)
- Two (2) Caterpillar D5C crawler tractors (Colleton and Hampton Counties)
- One (1) 2001 Freightliner truck tractor (Hampton County)

### **Pee Dee Region**

- One (1) Boaz 25-ton lowbed trailer (Horry County)
- One (1) 2001 Ford 3/4 ton truck 4x4 (Florence County)
- Refurbished Carolina Firemaster 200-gallon pumper (Williamsburg County)
- Six (6) 2001 Dressta crawler tractors (Chesterfield, Lee, Sumter, Williamsburg, Dillon, and Darlington Counties)
- Two (2) Caterpillar D5C crawler tractors (Horry and Williamsburg Counties)
- One (1) 2001 Freightliner truck tractor (Williamsburg County)
- Three (3) RM900 Fesco lift fire plows (Sumter, Dillon, and Darlington Counties)

### **Piedmont Region**

- Six (6) 2001 Dressta crawler tractors (McCormick, York, Richland, Lexington, Laurens, and Greenville Counties)
- One (1) 2001 Ford truck F-550 (Traveling Mechanic)
- Three (3) RM 900 Fesco lift fire plows (York, McCormick, and Greenville Counties)

### **Manchester State Forest**

- One (1) 2001 Dressta crawler tractor
- One (1) RM900 Fesco lift fire plow

### **Sand Hills State Forest**

- Two (2) Used Chevrolet Blazers, 1995 and 1997

### **Columbia Headquarters**

- Central Repair Shop initiated purchasing, fabrication, and organized the modification of crawler tractors for field use.
- The Central Repair Shop prepared and organized the fire suppression equipment for one auction held at its headquarters in October of 2000. The Forestry Commission netted \$152,890.00. These proceeds are used to purchase like equipment.
- A balance of \$1,178.34 in the surplus equipment budget will be carried forward for FY 01-02.
- Received 1.8 million dollars in recurring funds to purchase fire suppression equipment.
- One (1) 2001 Dodge 3/4 ton passenger van (Motor Pool)
- Installed Fleetmax software program in the three (3) Region Shops. Arrangements were made to capture vehicle/equipment costs for Taylor Nursery, Niederhof Seed Orchard, and Central Repair Shops on the Fleetmax software program.
- Sold fire plow to Department of Corrections - \$655.00
- Sold JD350 and plow to US Army - \$11,500.00

## **LAW ENFORCEMENT**

The Forestry Commission has 62 commissioned officers, including four full-time investigators trained and experienced in the investigation of arson, forest product theft and fraud, and related crimes. During the fiscal year, investigators cleared 127 timber theft and related cases involving timber valued at \$1,096,344. In addition, 34 cases were pending court or pleas at the end of the year with a timber value of \$324,134.

Investigators also presented 26 timber theft awareness and prevention programs to landowners and forestry professionals.

## Law Enforcement Report, Fiscal Year 2001

	Prosecutions					Investigations					State Forests	
County	Outdoor Burning		Woods Arson	Juvenile cases	Total	Fire	Smoke	Timber Theft/Fraud		Burn Site Inspections		
	Prosecutions	Fines						Investigated	Settled		Prosecutions	Fines
Abbeville	2	\$144.00	0	0	2	15	0	1	1	0	0	\$0.00
Aiken	5	\$465.00	0	1	6	24	0	8	5	1	0	\$0.00
Allendale	0	\$0.00	0	0	0	5	0	0	0	1	0	\$0.00
Anderson	0	\$0.00	0	0	0	3	0	0	0	0	0	\$0.00
Bamberg	5	\$525.00	0	0	5	31	1	8	7	10	0	\$0.00
Barnwell	5	\$150.00	0	0	5	18	0	1	1	1	0	\$0.00
Beaufort	4	\$400.00	0	1	5	28	0	3	3	8	0	\$0.00
Berkeley	30	\$6,080.00	1	2	33	113	4	6	6	10	0	\$0.00
Calhoun	16	\$2,585.00	0	0	16	37	0	3	3	5	0	\$0.00
Charleston	11	\$530.00	1	0	12	72	1	3	2	5	0	\$0.00
Cherokee	0	\$0.00	1	0	1	8	0	0	0	0	0	\$0.00
Chester	0	\$0.00	0	0	0	0	0	0	0	0	0	\$0.00
Chesterfield	12	\$1,060.00	0	0	12	12	0	3	2	0	0	\$0.00
Clarendon	2	\$125.00	0	0	2	7	3	5	1	0	0	\$0.00
Colleton	26	\$2,850.00	0	1	27	129	1	15	13	26	0	\$0.00
Darlington	19	\$1,015.00	0	0	19	59	2	2	0	0	0	\$0.00
Dillon	2	\$50.00	1	0	3	5	1	1	0	2	0	\$0.00
Dorchester	20	\$525.00	0	1	21	53	2	12	12	8	0	\$0.00
Edgefield	0	\$0.00	0	0	0	0	0	2	2	0	0	\$0.00
Fairfield	0	\$0.00	0	0	0	5	0	1	1	0	0	\$0.00
Florence	51	4,872.00	0	1	52	117	9	9	4	0	0	\$0.00
Georgetown	17	\$2,755.75	0	4	21	41	0	0	0	17	0	\$0.00
Greenville	2	\$270.00	0	0	2	3	0	0	0	0	0	\$0.00
Greenwood	0	\$0.00	0	0	0	0	0	2	2	0	0	\$0.00
Hampton	0	\$0.00	0	0	0	55	0	4	4	1	0	\$0.00
Horry	7	\$375.00	3	0	10	19	0	4	2	21	0	\$0.00
Jasper	17	\$2,025.00	0	1	18	77	0	1	1	0	0	\$0.00
Kershaw	28	\$1,600.00	0	0	28	48	0	1	1	20	0	\$0.00
Lancaster	0	\$0.00	0	0	0	5	0	3	0	6	0	\$0.00
Laurens	0	\$0.00	0	0	0	0	0	2	2	0	0	\$0.00
Lee	14	\$1,925.00	0	0	14	14	0	4	3	1	0	\$0.00
Lexington	60	\$12,450.00	0	2	62	81	0	2	3	0	0	\$0.00
Marion	1	\$50.00	0	0	1	5	1	3	3	1	0	\$0.00
Marlboro	10	\$1,025.00	0	0	10	25	0	0	0	0	0	\$0.00
McCormick	0	\$0.00	0	0	0	3	0	2	0	0	0	\$0.00
Newberry	0	\$0.00	0	0	0	20	0	0	0	0	0	\$0.00
Oconee	8	\$1,145.00	1	0	9	15	1	2	2	0	0	\$0.00
Orangeburg	66	\$9,700.00	1	1	68	201	4	10	9	3	0	\$0.00
Pickens	16	\$1,875.00	0	0	16	25	0	1	1	0	0	\$0.00
Richland	11	\$1,375.00	0	0	11	42	1	16	16	1	0	\$0.00
Saluda	0	\$0.00	0	0	0	10	1	3	3	0	0	\$0.00
Spartanburg	0	\$0.00	0	0	0	5	1	3	2	0	0	\$0.00
Sumter	8	\$475.00	0	0	8	10	1	6	5	15	0	\$0.00
Union	0	\$0.00	0	0	0	6	0	4	3	0	0	\$0.00
Williamsburg	68	\$5,200.00	0	0	68	126	1	5	2	0	0	\$0.00
York	5	\$450.00	0	0	5	26	3	0	0	7	0	\$0.00
Manchester	0	\$0.00	0	0	0	0	0	0	0	0	67	\$8,275.00
Sandhills	0	\$0.00	0	0		0	0	0	0	0	26	\$3,875.00
<b>Totals</b>	<b>548</b>	<b>\$64,071.75</b>	<b>9</b>	<b>15</b>	<b>572</b>	<b>1,603</b>	<b>38</b>	<b>161</b>	<b>127</b>	<b>170</b>	<b>93</b>	<b>\$12,150.00</b>

## **NURSERIES AND TREE IMPROVEMENT**

This year the SC Forestry Commission distributed a total 20,095,000 seedlings to landowners in SC. A total of 90,346,000 seedlings from all sources were planted on 145,251 acres in the state during the year.

Taylor Nursery produced their first crop of seedlings from the new ground. This additional land worked very well. The modifications to the irrigation system performed better than expected and the seedlings were adequately irrigated during another severe summer drought. It was necessary to pump water from an adjacent pond to the main irrigation pond to keep up with water demand during the drought. The longleaf crop for 2000-2001 was below goals with some spring losses in the field. A lottery was held in July 2000 to allocate longleaf seedlings. We were only able to fill 21% of 814 applications using a 25,000 seedling limit. The longleaf crop for 2001-2002 was sown in October and looks excellent with over 6 million seedlings. The lottery conducted July 2001 for FY 2001-2002 has finally met demand with all applicants receiving trees. The supply of longleaf seedlings and seed south-wide is increasing and demand was held constant by no new longleaf CRP sign-ups this year.

The old Piedmont Nursery (now an education center), Coastal Nursery (now a seed orchard) and Tilghman Nursery (now Sumter Area Office) facilities continue to house white pine, Virginia pine and hardwood orchards. Spartanburg, Sumter and Walterboro Area Offices plus Taylor Nursery are used as seedling distribution centers. A customer survey indicated that 97% of customers were satisfied with our products and services.

Creech Greenhouse in Wedgefield produces containerized seedlings, rooted cuttings and progeny test material. The greenhouse production was 1,034,127 for this fiscal year. The demand for longleaf pine remained high this year fueled by CRP cost share incentives. The facilities at Creech were expanded this year by adding a mechanized production line and building. The existing extraction and boxing line will be moved into the new building. We plan to increase production by 333,000 container longleaf this coming year with the potential to increase container production to 3 million.

## **RESEARCH**

The South Carolina Forestry Commission continues cooperative research projects with Clemson University, Auburn University and U.S. Forest Service. The Commission also maintains membership in the North Carolina State University Pine Tree Improvement Cooperative and the Auburn University Southern Forest Nursery Management Cooperative. The SCFC ended its membership in the North Carolina State Hardwood Research Cooperative.

## **FOREST TREE SEED COLLECTION PROGRAM**

Each year the South Carolina Forestry Commission collects or purchases pine cones and other forest tree seed for seedling production. During the past year, a variety of hardwood and longleaf pine seed were purchased for future seedling production. Sawtooth oak was collected from Savannah, GA. The SCFC collected 100 bushels of longleaf pine from Bladen Lakes State Forest in NC and Sandhills State Forest purchased 383 bushels. The availability of longleaf pine remains a limiting factor in longleaf seedling production. A poor seed crop was harvested in 1999 and 2000. Next year's (2001) crop also looks below average in South Carolina. Seed is becoming available from commercial vendors but the cost has doubled.

## **TREE IMPROVEMENT**

Niederhof Seed Orchard produced a bumper crop of 6,777 bushels of second generation coastal loblolly pine and 4,114 bushels of second generation piedmont loblolly. This represents 23% of all second generation seed produced this year in the south. The second generation coastal orchard has been rogued to twenty clones and the piedmont orchard to ten clones. Based on SCFC and North Carolina State University field tests these coastal trees produce 18% more volume/acre than unimproved and the piedmont trees produce almost 30% more volume/acre than unimproved. Both sources have demonstrated one half the rust infection of unimproved trees.

SCFC staff measured 31 progeny tests this year bringing the total measured to 122 since 1988. This completes the majority of our second cycle of breeding and testing. New third cycle clones are being grafted each spring into a new breeding orchard at Niederhof Seed Orchard. The next cycle of breeding to produce fourth generation progeny began

this spring. A Virginia pine Christmas tree research study was completed in cooperation with the SC Christmas Tree Association and NC State University. This study identified families from our orchard that will produce superior Christmas trees. The Virginia pine orchard produced 25.75 bushels which was harvested to allow these best families to be grown for Christmas tree growers this coming year.

## State Nurseries Seedling Production by Species 2000-2001

### Bareroot Seedlings

Coastal Loblolly Pine 2 <sup>nd</sup> Generation	6,486,000
Coastal Loblolly Pine 2 <sup>nd</sup> Generation High Rust Resistant	1,800,000
Coastal Loblolly Pine NC Division Forest Resources	1,000,000
Coastal Loblolly Pine Georgia Pacific	500,000
Piedmont Loblolly Pine 2 <sup>nd</sup> Generation	5,218,000
Piedmont Loblolly Pine 2 <sup>nd</sup> Generation High Rust Resistant	840,000
Piedmont Loblolly Pine NC Division Forest Resources	657,000
Piedmont Loblolly Pine Bowater	2,250,000
Piedmont Loblolly Pine Georgia Pacific	700,000
Longleaf Pine	2,069,630
Longleaf Pine NC Division Forest Resources	439,750
Attaway Lespedeza	839,000
Sawtooth Oak	123,030
Texas Loblolly	92,000
Virginia Pine	89,100
White Pine (2-0)	84,000
Red Cedar	76,700
Baldcypress	72,900
Yellow Poplar	55,455
White Oak	31,000
Black Walnut	26,530
Sycamore	11,565
American Chestnut (experimental)	5,000
Button Bush	500
<b>Total</b>	<b>23,467,160</b>
Trees grown for NC Div. Forest Resources not planted in SC	2,096,750
Tree purchased from Florida and NC state nurseries for resale in SC	589,000
Hardwoods carried over for next year	52,300
White Pine (1-0) Not For Sale	50,000

### Containerized Seedlings (Creech Greenhouse)

Longleaf Pine	952,072
Leyland Cypress	50,000
Wiregrass Northern	10,500
Wiregrass Southern	10,500
Virginia Pine	4,000
Clemson Greenspire	2,915
Carolina Sapphire	2,140
Atlantic White Cedar	2,000
<b>Total</b>	<b>1,034,127</b>
<b>Total Seedlings Produced by SCFC</b>	<b>24,501,287</b>
<b>Total Seedlings Distributed in South Carolina</b>	<b>20,095,000</b>



## Tree Seedling Distribution By Landowner Classification

<b>Land Ownership</b>	<b>Percent of Total</b>	<b>Number of Trees Planted</b>
Non Industrial Private Forest landowner	55	49,963,000
Forest Industry (Pulp & Paper)	31	27,883,000
Forest Industry (Other Corp.)	10	8,657,000
Lumber	2	2,185,000
State Forest	1	1,084,000
Federal Land	<1	469,000
Christmas Tree Growers	<1	50,000
Schools	<1	23,000
Associations/Clubs	<1	20,000
Other Government Land	<1	10,000
Other State Land	<1	2,000
<b>Total</b>	<b>100</b>	<b>90,346,000</b>

### Source of Seedlings Planted in the State:

#### 1. Nurseries in South Carolina

Industry Nurseries	58,523,000
South Carolina Forestry Commission	20,095,000
<b>Total</b>	<b>78,618,000</b>

#### 2. Nurseries Outside of South Carolina

Industry Nurseries	10,113,000
Private Nurseries	101,000
Georgia Forestry Commission	451,000
North Carolina Forest Service	1,063,000
<b>Total</b>	<b>11,728,000</b>

**Total Seedlings and Acres Planted in South Carolina  
1928-2001 by County**

<b>County</b>	<b>Seedlings Planted 1999-01</b>	<b>Grand Total Planted To Date 1928-01</b>	<b>Acres Planted 1928 - 6/30/01</b>
Abbeville	908,554	66,868,554	86,247
Aiken	2,594,152	245,498,152	295,543
Allendale	1,370,468	109,931,468	138,650
Anderson	502,606	55,605,606	65,995
Bamberg	396,220	73,758,220	94,988
Barnwell	510,053	146,991,053	179,471
Beaufort	71,330	31,274,330	37,398
Berkeley	1,577,022	141,231,022	181,270
Calhoun	1,325,795	52,645,795	68,707
Charleston	1,291,455	58,715,455	80,843
Cherokee	964,900	36,755,900	45,389
Chester	2,297,468	92,095,468	117,130
Chesterfield	4,512,672	159,351,672	192,103
Clarendon	906,408	75,569,408	97,984
Colleton	2,586,065	162,123,065	210,942
Darlington	376,683	41,699,683	52,864
Dillon	802,600	34,449,600	45,455
Dorchester	1,157,244	92,038,244	119,714
Edgefield	3,358,250	101,416,250	136,397
Fairfield	3,240,525	122,874,525	163,258
Florence	1,810,383	39,992,383	53,872
Georgetown	2,009,780	153,090,780	203,550
Greenville	149,820	32,567,820	38,441
Greenwood	1,132,241	90,796,241	119,455
Hampton	2,632,672	127,146,672	164,733
Horry	306,952	79,359,952	99,302
Jasper	948,700	102,434,700	129,613
Kershaw	1,910,255	200,233,255	236,386
Lancaster	5,744,233	90,931,233	116,902
Laurens	1,091,250	110,741,250	138,425
Lee	795,180	39,164,180	49,997
Lexington	698,335	79,086,335	97,333
Marion	148,100	45,293,100	60,070
Marlboro	1,842,925	66,910,925	84,942
McCormick	893,900	58,041,900	77,545
Newberry	837,973	102,864,973	134,990
Oconee	258,234	41,134,234	50,438
Orangeburg	2,907,799	164,652,799	213,997
Pickens	461,272	31,485,272	38,049
Richland	630,327	73,727,327	88,346
Saluda	1,607,745	69,264,745	95,361
Spartanburg	494,557	66,383,557	78,729
Sumter	1,607,972	77,923,972	93,525
Union	990,041	85,090,041	107,045
Williamsburg	1,630,018	128,406,018	174,823
York	648,570	71,827,570	88,566
Multiple Counties	25,406,296	355,681,296	423,960
<b>Total</b>	<b>90,346,000</b>	<b>4,485,126,000</b>	<b>5,668,743</b>

## SCFC Active Seed Orchards

Orchard Type	Year Established	Acres
<b>Creech Greenhouse/Seed Orchard</b>		
Genetic Diversity Archives (clone banks)	1977-83	25
Coastal Loblolly Pine 1.0 Rust Resistant	1971	5
Longleaf Pine 1.0	1971	12
Virginia Pine 1.0 (Creech)	1980	1
Virginia Pine 1.0 (Manchester SF)	1986	2
Sawtooth Oak 1.0 Seedling	1990	2
<b>Total</b>		<b>47</b>
<b>Niederhof Seed Orchard</b>		
Coastal Loblolly Pine 2.0	1985-88	204
Piedmont Loblolly Pine 2.0	1985-88	118
Longleaf Pine 1.0	1988-90	30
Loblolly Pine Breeding Orchard 3.0	1997-	10
Longleaf Pine Seedling Seed Orchard	1998	8
“Gobbler” Sawtooth Oak Seedling S.O.	1998	1
<b>Total</b>		<b>371</b>
<b>Coastal Seed Orchard</b>		
Sycamore 2.0	1992-95	4
Sweetgum 2.0	1992-95	6
Willow Oak Seedling Seed Orchard	1992-95	1
Swamp Chestnut Oak Seedling S.O.	1992-95	1
Green Ash Seedling Seed Orchard	1992-95	3
Red Maple Seedling Seed Orchard	1992-95	1
Southern Red Oak Seedling Seed Orchard	1992-95	2
White Oak Seedling Seed Orchard	1992-95	2
<b>Total</b>		<b>20</b>
<b>Piedmont Seed Orchard</b>		
White Pine 1.5	1991-93	12
Virginia Pine 1.0	1993	3
Northern Red Oak Seedling Seed Orchard	1993-95	2
<b>Total</b>		<b>17</b>
<b>Grand Total</b>		<b>455</b>

## Seedling Distribution 1928-2001

Year	Total State Nurseries	Total All Sources	Year	Total State Nurseries	Total All Sources
1928-29	142,000	142,000	1964-65	49,010,000	60,683,000
1929-30	148,000	148,000	1965-66	42,311,000	56,529,000
1930-31	986,000	986,000	1966-67	48,575,000	69,598,000
1931-32	976,000	976,000	1967-68	39,970,000	58,812,000
1932-33	996,000	996,000	1968-69	29,529,000	51,453,000
1933-34	1,031,000	1,031,000	1969-70	31,415,000	49,203,000
1934-35	7,529,000	7,529,000	1970-71	31,940,000	54,541,000
1935-36	23,000,000	23,000,000	1971-72	23,678,000	41,357,000
1936-37	22,000,000	22,000,000	1972-73	30,978,000	45,239,000
1937-38	11,192,000	11,192,000	1973-74	28,443,000	42,306,000
1938-39	10,854,000	10,854,000	1974-75	40,082,000	55,997,000
1939-40	12,244,000	12,244,000	1975-76	40,664,000	59,063,000
1940-41	21,165,000	21,165,000	1976-77	39,795,000	59,238,000
1941-42	10,275,000	10,275,000	1977-78	45,735,000	64,380,000
1942-43	4,742,000	4,742,000	1978-79	43,010,000	65,937,000
1943-44	5,663,000	5,663,000	1979-80	46,375,000	76,207,000
1944-45	1,963,000	1,963,000	1980-81	53,513,000	86,420,000
1945-46	6,402,000	6,402,000	1981-82	55,728,000	87,793,000
1946-47	1,963,000	1,963,000	1982-83	47,799,000	86,265,000
1947-48	11,357,000	11,357,000	1983-84	50,170,000	100,394,000
1948-49	30,339,000	30,339,000	1984-85	51,636,000	107,718,000
1949-50	29,502,000	29,502,000	1985-86	65,465,000	124,381,000
1950-51	20,615,000	20,615,000	1986-87	73,555,000	157,523,000
1951-52	16,619,000	16,619,000	1987-88	78,788,000	164,095,000
1952-53	22,036,000	32,246,000	1988-89	55,052,000	153,450,000
1953-54	36,210,000	42,852,000	1989-90	38,356,000	128,475,000
1954-55	35,373,000	45,182,000	1990-91	29,297,000	102,384,000
1955-56	34,414,000	42,932,000	1991-92	31,984,000	94,710,000
1956-57	55,754,000	69,659,000	1992-93	22,665,000	84,287,000
1957-58	60,846,000	93,369,000	1993-94	23,286,000	119,311,000
1958-59	123,985,000	166,351,000	1994-95	16,154,000	90,336,000
1959-60	147,146,000	187,516,000	1995-96	16,841,000	99,549,000
1960-61	145,609,000	158,331,000	1996-97	16,058,000	99,439,000
1961-62	71,892,000	83,844,000	1997-98	23,278,000	97,963,000
1962-63	56,191,000	64,202,000	1998-99	17,955,000	94,539,000
1963-64	51,446,000	62,424,000	1999-00	21,524,000	104,594,000
			2000-01	20,095,000	90,346,000

Total State Nurseries: 2,513,364,000

Total All Sources: 4,485,126,000

### Type of Trees Planted Per County 2000-2001

County	Total	Loblolly	Longleaf	Other Conifer	Hardwoods
Abbeville	908,554	905,400	0	54	3,100
Aiken	2,594,152	2,101,000	411,000	9,752	72,400
Allendale	1,370,468	1,341,350	25,000	1,118	3,000
Anderson	502,606	497,200	0	2,806	2,600
Bamberg	396,220	374,620	8,000	3,100	10,500
Barnwell	510,053	173,500	325,855	1,698	9,000
Beaufort	71,330	62,660	0	4,570	4,100
Berkeley	1,577,022	1,455,875	0	26,736	94,411
Calhoun	1,325,795	1,255,225	57,000	3,270	10,300
Charleston	1,291,455	1,193,067	30,000	1,216	67,172
Cherokee	964,900	964,500	0	400	0
Chester	2,297,468	2,291,750	0	2,018	3,700
Chesterfield	4,512,672	3,406,000	1,105,000	1,572	100
Clarendon	906,408	793,000	90,000	3,608	19,800
Colleton	2,586,065	2,463,127	31,000	1,454	90,484
Darlington	376,683	257,000	111,322	3,361	5,000
Dillon	802,600	613,700	188,900	0	0
Dorchester	1,157,244	1,108,244	48,000	0	1,000
Edgefield	3,358,250	3,345,050	9,000	1,400	2,800
Fairfield	3,240,525	3,228,025	0	0	12,500
Florence	1,810,383	1,769,500	33,250	1,933	5,700
Georgetown	2,009,780	1,999,000	10,000	680	100
Greenville	149,820	140,800	1,250	6,470	1,300
Greenwood	1,132,241	1,128,025	0	216	4,000
Hampton	2,632,672	2,514,100	109,250	1,822	7,500
Horry	306,952	225,500	53,000	3,452	25,000
Jasper	948,700	907,600	0	100	41,000
Kershaw	1,910,255	1,808,475	95,500	3,280	3,000
Lancaster	5,744,233	5,743,625	0	608	0
Laurens	1,091,250	1,087,325	0	3,725	200
Lee	795,180	579,500	156,500	1,280	57,900
Lexington	698,335	572,300	105,500	13,385	7,150
Marion	148,100	145,500	0	700	1,900
Marlboro	1,842,925	1,777,250	50,500	8,175	7,000
McCormick	893,900	893,900	0	0	0
Newberry	837,973	825,975	0	5,698	6,300
Oconee	258,234	252,500	500	2,934	2,300
Orangeburg	2,907,799	2,352,661	528,000	2,533	24,605
Pickens	461,272	456,000	0	3,972	1,300
Richland	630,327	543,825	72,700	12,002	1,800
Saluda	1,607,745	1,600,375	0	6,270	1,100
Spartanburg	494,557	484,250	500	5,182	4,625
Sumter	1,607,972	1,044,500	555,250	4,022	4,200
Union	990,041	983,525	0	416	6,100
Williamsburg	1,630,018	1,335,000	185,500	218	109,300
York	648,570	604,000	0	2,470	42,100
Multiple Counties	25,406,296	23,787,687	448,750	711,959	457,900
<b>Total</b>	<b>90,346,000</b>	<b>83,392,991</b>	<b>4,846,027</b>	<b>871,635</b>	<b>1,235,347</b>

## **DISPATCH AND FOREST TECHNOLOGY**

The Forestry Commission hosted a meeting attended by state and federal forest fire program managers from around the country to demonstrate the Hazard Support System being developed by the US Geological Survey to detect wildfires and to tour the Commission's regional dispatch centers. Unfortunately, the Hazard Support System which utilizes classified ballistic missile satellites, weather satellites, and other technology to detect wildfires was terminated in August 2000. South Carolina served as a test site and provided valuable feedback to the program managers and contractors on the system. Aspects of the system were transferred to the National Oceanic and Atmospheric Administration (NOAA) which may continue development and testing of a system for wildfire detection.

The Commission was a major cooperator in the 1999 National Aerial Photography Program, which acquired 1:40,000 color infrared aerial photography of South Carolina during January and February of 1999 and 2000. The Commission is currently working with the Department of Natural Resources, US Corps of Engineers and other agencies to have this photography converted into Digital Orthophoto Quarter Quads (DOQQs) so various computer applications and geographical information systems can more easily utilize it. Delivery of the 1999 DOQQs should take place in fiscal year 2002.

Purchase and installation of a communications recording system for the Regional Dispatch Centers was placed on hold due to budget cuts. Bid specifications will continue to be developed for a statewide communication recording system and equipment evaluated in case funding becomes available in the near future.

Reviews of the 3 Region Dispatch Centers were conducted during February and March, 2001. The purpose of these reviews was to examine efficiency of and procedures being used at each center to improve operations at all dispatch centers and work towards statewide consistency. In addition to observing operations at each dispatch center, review team members interviewed individual dispatchers to assess their knowledge of various procedures and their skill level. Review team observations and analysis of various data being collected by the Computer Aided Dispatch System will be pulled together in a final report to be completed in the first quarter of fiscal year 2002.

Conversion of databases, applications, and computer files utilized by the various sections of the Division of Field Operation Support from a legacy Unisys computer system to a PC based system was completed during this fiscal year. This allowed for the removal of Unisys workstations from many work areas and for the eventual removal of this legacy computer system from the agency.

Computers were upgraded at twelve (12) area or project forester's offices to assist in the preparation of forest management plans, correspondences to landowners, record keeping, etc. This included the installation of various forestry-related applications, mapping software, printers, and scanners to assist in the development of forest management plans and related management work.

The automated yard debris burning notification system was modified so that all non-smoke management type vegetative debris burning notifications could be directed to that system as of July 1, 2001. This change will redirect approximately 30,000 calls per year from our dispatch centers to the automated system freeing up dispatchers to more efficiently handle smoke management notifications, radio communications, and wildfire calls.

# ADMINISTRATION

## SOUTH CAROLINA FORESTRY COMMISSION FINANCIAL STATEMENT FISCAL YEAR 2000 – 2001

### REVENUES

State Appropriations	21,248,978
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Federal Grants	2,231,416
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### **Earmarked Funds**

Hunting & Fishing License	33,379
Refund of Prior Year Expenditure	87,662
Burning Assistance Fee	155,408
Fire Lane Fee	148,805
Timber Marking Fee	6,068
Registration Fee	2,081
User Fee – State Park and Forest	62,718
Miscellaneous Fee – Field Trial	17,951
Construction of Water Bar	3,700
Stand By for Prescribed Burning	5,880
Sale of Seedlings	1,341,464
Sale of Timber	1,044,872
Rent – Residence	11,746
Rent Farm Land	71,803
Rent – State Owned Property	19,020
Rent – Equipment	12,388
Contributions & Donations	1,071
Insurance Claims	5,848
Sale of Services	38,804
Sale of Publications	126
Commission – Vending Machines	658
Sale of Junk	76
Forest Product Assessment	875,907
Sale of Assets	1,061,100

<b>Total Earmarked</b>	<b>\$5,008,535</b>
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<b>Total Revenue</b>	<b><u>\$28,488,929</u></b>
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### EXPENDITURES

State	21,048,757
Federal	2,324,424
Earmarked	4,463,622
Permanent Improvements	600,366

Total Expenditures	<u>\$28,437,170</u>
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<b>EXCESS OF REVENUE O/(U) EXPENDITURES</b>	<b><u>\$51,759</u></b>
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Federal Grant Revenue includes a reduction of \$19,742  
For Indirect Cost transferred to the General Fund

## HUMAN RESOURCE MANAGEMENT

The Human Resource Management Section administers the following programs for the SCFC:

- Coordination of Total Quality Management efforts: 4 members of the executive team attended Baldrige based training on performance measures and the annual accountability report. A Physical Fitness Program Development Team was established. Four EPMS training sessions were presented to all supervisors around the state. Assisted with the planning and organization of the Planning Conference in Spartanburg. Coordinated production of the 2<sup>nd</sup> Edition SCFC Strategic Plan. Assisted with finalizing and implementing the Mechanic Career Path Program developed by the Mechanic Career Path Team.
- Quarterly Training Sessions for Field Administrative Support Staff.
- Classification and Compensation: 8 Performance Pay Increases, 2 Bonuses, 6 Promotions, 7 Reclassifications, 11 Additional Duties/Responsibilities Increases, 33 New Hires, 51 Resignations
- Employee Relations: to include progressive discipline, EPMS, counseling, ADA, legal proceedings, and grievances.
- Career Fairs
- Job Announcement Postings
- Recruitment
- Employee Benefits: to include health, dental, life, Long Term Care and Long Term Disability for both active and retired employees; Deferred Compensation, Employee Wellness, Employee Innovation System and Tuition Assistance.
- Leave Program: to include annual, sick, LWOP, FMLA and leave transfer
- Affirmative Action
- Worker's Compensation: 26 claims filed between 7/01/00 and 6/30/01.
- Service Awards: 31 State Certificates and Pins awarded; 72 SCFC Certificates awarded
- Retirement: to include counseling and assistance with the process for both service and disability applications. 6 disability and 21 service retirement applications processed FY 2000-2001. Administration of the TERI (TEACHER & EMPLOYEE RETENTION INCENTIVE) beginning 010101 with 28 applications processed January through June 2001.
- Position Description Files
- Personnel Files
- Commercial Drivers' License Drug & Alcohol Testing Program
- Overtime and Fair Labor Standards Act
- Reduction in Force

## TRAINING & SAFETY

During fiscal year 2000-2001, Safety was combined with Training to form the Training and Safety Section. The Training portion of this section is responsible for coordinating and recording training for all South Carolina Forestry Commission employees. The goal of the section is to provide the training employees need to perform their jobs safely, effectively, and efficiently. During fiscal year 2000-2001, 137 training sessions were held with 1622 employees attending, (Some employees attended multiple sessions.) These sessions are listed by major subject area below.

Category	Number of Sessions	Number of Employees Attending
Fire Management	33	539
Forest Management	30	411
Equipment Maintenance	4	37
Safety	22	218
Law Enforcement	18	199
Personnel Management	8	126
Administration	20	55
Information & Education	2	37
<b>TOTAL</b>	<b>137</b>	<b>1622</b>



Other major accomplishments included: maintaining an active and working Training Council, moving all training records from the old mainframe computer system to a modern P C software system, developing and printing a SCFC Training Catalog that describes the training courses that SCFC employees take, and developing 6 SCFC employee training guides. These training guides give both the supervisor and the new employee a checklist of minimum required training, a time frame in which to complete the training, and the level of knowledge required by subject area.

Even with the hazardous nature of many jobs in the SC Forestry Commission, the agency is still a safe place to work. During fiscal year 2000-2001, there were 27 personal injuries (many minor in nature) in an agency with 457 employees. This is due to the constant emphasis placed on safety by the supervisors, safety training, and oversight by the region safety managers and the state Safety Coordinator. The Safety Coordinator, in conjunction with representatives from OSHA or the State Accident Fund Agency, conducted safety inspections at 7 S C Forestry Commission facilities.

## **OFFICE OF THE STATE FORESTER**

### **ECONOMIC AND RURAL DEVELOPMENT**

Forest and wood product business development and recruiting as well as rural development assistance is a component of the Forestry Commission's mission. The goal is to maximize the benefits to the state from the forest resource base.

#### **BUSINESS DEVELOPMENT**

2 business assists this year resulted in announced new investment of \$114.0 million and creation of 137 new jobs.

54 business recruiting contacts were maintained, with 33 contacts initiated this year.

97 existing business assists were provided.

82 requests for information or industry contacts were handled.

Business promotion activities included a South Carolina exhibit at the International Woodworking and Furniture Supply Fair in Augusta, GA.

International Trade activities included assisting South Carolina Department of Commerce with South Carolina exhibit at Interzum Woodworking show in Cologne, Germany. This resulted in 10 trade contacts with an estimated value of \$232,000. Also served on World Trade Center Advisory Board and participated in South Carolina District Export Council and Midland International Trade Association meetings.

#### **RURAL DEVELOPMENT**

Rural Development activities included participation in Governor's Rural Summit, and continuing to represent the Forestry Commission on the South Carolina Rural Development Council. In addition, a program was started in conjunction with the US Forest Service to assist communities in reducing hazardous fuels by creating markets for small diameter trees.

### **INTERNAL AUDIT**

The Internal Audit Department is an independent appraisal function that examines and evaluates the adequacy and effectiveness of Commission activities as a service to all levels of Management and the Commissioners. Emphasis is on auditing the agency's activities, processes, systems, and operations to ascertain efficiency in quality services.

During Fiscal Year 2000-2001, the Internal Auditor has served on several teams. One team was the Dispatch Review Team. The review was performed to learn the dispatchers' knowledge of CADS and the operations of the center noting any differences and opportunities for standardization. Another team was the Area Review Team. The review was performed to analyze the current process, make recommendations for improvement where warranted, and revise

accordingly. The last team served on was the Cost-Saving Team. This team was formed to review suggestions received by our employees concerning ways the agency could save money. The team was to evaluate the suggestions and determine if they could be implemented.

Also during Fiscal Year 2000-2001, the Internal Auditor earned the Associate Public Manager award. This award signifies that the Internal Auditor has met the requirements for the Associate Public Manager certificate and that the Internal Auditor has successfully demonstrated knowledge of fundamental supervisory concepts and techniques.

Other activities include: an audit of the Coastal Region, an audit of the Recreational Activities on Manchester State Forest, an audit of VISA, an audit of Travel; year-end physical inventories on shop supplies in all relevant locations.

In addition, memorandums were prepared and submitted to Management noting various issues that warranted attention.

The Internal Audit Department was also aware and involved where applicable in reviews performed by internal and/or external sources. For example, the Human Resources Section performed an internal review of the Compensatory Leave. An external review was performed by State Fleet Management at Sand Hills State Forest. The State Auditor's Office performed an audit of the agreed upon Procedures for Fiscal Year 1999-2000.

The Internal Auditor has obtained adequate training to maintain compliance with the continuing education requirements of the Government Auditing Standards.

## **RECORDS MANAGEMENT**

The Internal Audit Department oversees the Records Management System for the Commission. The Internal Auditor serves as Records Officer. Twenty-seven Record Liaison Officers were selected based on the organizational structure of the Commission. The Records Officer is responsible for training the Record Liaison Officers. Such training is performed periodically to ensure consistency and continuity. In addition, the Record Liaison Officers are kept abreast of other training opportunities available.

Our efforts in Records Management have been recognized by both the South Carolina Public Records Association and the South Carolina Department of Archives and History. During Fiscal Year 2000-2001, the Internal Auditor was selected as Member of the Year by the South Carolina Public Records Association and the Pee Dee Region received the Award of Achievement by the South Carolina Department of Archives and History. The "Member of the Year Award" signifies outstanding service that has significantly contributed to the growth, well-being, goals and missions of the South Carolina Public Records Association. The "Award of Achievement" signifies substantial achievement in records management.

During Fiscal Year 2001, a total of 282.4 cubic feet of official records were destroyed in accordance with the retention schedules approved by the South Carolina Department of Archives and History. This total does not include the destruction of copies. In addition, 7 cubic feet of records were transferred to the South Carolina Department of Archives and History for possible retention.

## **INFORMATION OFFICER**

The Columbia Information Officer wrote and distributed 48 news releases and one short feature article during the Fiscal Year. In addition, the IO provided a total of 292 media interviews: 134 with television stations; 135 with newspapers; and 23 with radio stations.

## INFORMATION AND EDUCATION

The Information and Education Department includes Information Services, Environmental Education, and Harbison State Forest.

### INFORMATION SERVICES

Information Services produces audio-visual and print material for use by schools, Forestry Commission personnel, and the public for both educational and training purposes. The department handles public information about forest management subjects, is the contact point for interagency outreach activities, and maintains an Internet website. Information Services is also responsible for internal communication in the form of a quarterly, tabloid-sized newsletter and a weekly electronic news bulletin.

#### *Internet Website*

The Forestry Commission's website at <http://www.state.sc.us/forest> has been expanded and updated since we went online in 1997 to include comprehensive forestry information and information about the Commission's services.

Categories for search include Fire/Outdoor Burning, Forest Recreation, Forest Management, Forest Products, SCFC Facts and Facilities, Environmental Education, Reference Resources, and Bulletin Board. Entire publications are available online, such as the BMP guidelines for forestry practices in SC and its supplement on treatment of braided streams, SC's Smoke Management Guidelines, and the Forest Fire Law Handbook.

The website is a research tool for students of forestry. It is a reference for users of our services, with complete lists of county forestry personnel, outdoor burning information and relevant phone numbers, grant application information, seedling and services prices, current seedling inventory, ordering information and forms, location and trail maps for the state forests, and trail user permit applications. It is a continually updated source for fire weather, current news, and training events. And it provides convenient links to related online resources. During fiscal 00-01 the site was visited 323,509 times.

### Projects Completed in FY 00-01

#### *Web*

- Special webpage for SCFC employee use. Over sixty forms and reports are now accessible online.
- Expanded Envirothon web page
- PLT curriculum
- Teachers Tour and Wood Magic reports
- *Benefits of Urban Trees*
- *Southern Pine Beetle Facts*
- *Your Timber is Valuable*
- *Tree Identification*
- *Newly Planted Trees*
- *SCFC Annual Report*

#### *Planning*

- Planned and facilitated first two meetings of the *SC State Forests Recreation Advisory Council*, composed of two members representing each forest user group. The Council was created to draft statewide guidelines for recreational use of State Forests
- USFS Region 8 Conservation Education Plan working group
- ANRCE (Agriculture and Natural Resources Communicators for the Environment)
- USFS Region 8 Urban Forestry Technology planning group

#### *Outreach*

- Small Farmers and Landowners Outreach Committee
- Agriculture and Natural Resources State Outreach Committee

- Served on local planning teams and provided SCFC services exhibits for Small Farmers and Landowners Workshops, each serving a four-county area, held in Walterboro, Florence, Hemingway, and Sumter SC. Worked with SCFC Law Enforcement to present workshops on timber theft/fraud at all four workshops.
- Planned and staffed a forestry field day at Camp Kemo, Richland Memorial Hospital's week-long camp for SC children with cancer
- Urban Forestry grant review committee
- Forestry program for minority landowners, Camp Daniel

### ***Exhibits***

- Wood Magic Forest Fair banners and signage
- Arbor Day outdoor Exhibit
- State Forests: large format 20/18' exhibit introducing 3 state forests and the activities on each

### ***Exhibit Venues***

- SC State Fair
- Wildlife Expo in Charleston
- SC Science Council convention in Myrtle Beach
- SC Urban Forestry Conference at Clemson
- Small Farmers and Landowners Workshops in Walterboro, Florence, Hemingway and Sumter
- DHEC's Environmental Institute for teachers, Columbia
- SC State University, Camp Daniel
- Columbia Christmas parade
- University of South Carolina, Earth Day

### ***Publications***

- 2000-2001 Seedlings and Services Price Guide
- A special edition of TREE COUNTRY:SC, featuring the Pee Dee Region
- Urban Services card for each Urban Forester
- SC State Forests *Sketches* publication #2
- Urban Conference Brochure
- PLT Brochure (revised)
- Timber Theft Card — consumer tips for handling timber sales
- Harbison State Forest promotional brochure (new design and text)
- Manchester State Forest (new design and text)
- BMP Courtesy Exam brochure (new publication)
- BMP calling card
- SCFC Training Catalog
- Strategic Plan revision and cover stickers
- Notebook logos and printing for State Forests Recreational Advisory Council
- Harbison Trail Guide (new)
- Urban Activity Booklet reprint
- Forest Fun Book reprint
- Southern Pine Beetle outbreak maps, updated quarterly and printed
- Arbor Day How to Plant a Tree Instructions
- Arbor Day poster contest certificates for winners and display
- Web Site business cards
- Wood Magic annual report
- SC Forestry Commission annual report
- Prescribed Fire Managers newsletter, the *Torch*

### ***Posters***

- "We Put Your Fees and Our Trees to Work" posters created and printed for each State Forest explaining the user fee.

### ***Articles***

- SC Department of Commerce magazine, **South Carolina Commerce**, "*The Forest and the Trees*"
- Article with photos for ANRCE statewide newspaper inserts, *Over the River and Through the Woods: BMP*

## *Foresters*

### **Video**

- Wood Magic Forest Fair
- EPMS Training
- BMP footage for SCETV program
- Script writing committee and forestry scenes video for ANRCE's SCETV program *Pass It On Down*

### **Photography**

- BMP site exam in Piedmont Region
- High School Forestry Competition in Piedmont Region
- Water Handling and Fire Line Construction Training
- Wood Magic Forest Fair

### **Radio**

- Produced timber theft radio spot and scheduled 6-week campaign on stations in SC coastal counties
- Arrangements for SC Educational radio program, *Your Day*: Darryl Jones on Best Management Practices

### **Training**

- A week-long Effective Communications Course for new rangers, foresters, and other professional employees was held in September, 2000

### **Special Projects**

- A fiscal year 2001-2002 calendar entitled *The People of the Pee Dee Region* was created in response to the Region's I&E Plan. Each page was devoted to a Forestry Commission job category with photos and job descriptions. Every Pee Dee Region employee was photographed in his or her job environment.
- Designed an interactive computer program about Harbison, Sand Hills and Manchester State Forests to be used as a touchscreen exhibit

### **Furniture/Signs**

- Signs for Harbison, Manchester, Sand Hills State Forests
- Signs for area offices and SC Tree Farmer of the Year
- Bookcases and literature racks for Columbia and area offices

### **Improvements**

- Organized lumber storage and literature/exhibit room in sign shop

## **ENVIRONMENTAL EDUCATION**

It is the responsibility of the Environmental Education Coordinator's position to plan, develop, support, and coordinate the Forestry Commission's environmental education effort. The Coordinator oversees the development of Harbison State Forest's Environmental Education Center and serves as State Coordinator of Project Learning Tree (PLT) which is an international environmental education program designed for students in pre-kindergarten through high school. Last fiscal year (July '00 to June '01) SC PLT conducted 32 educator workshops throughout the state to train 641 teachers.. In addition, PLT participated in 11 exhibits and/or presentations at various functions across the state to reach approximately 3000 participants. The Coordinator also represents the Commission on the Coalition for Natural Resource Education and various other committees involved with environmental education throughout the state.

The Assistant Environmental Education Coordinator was instrumental in assisting the training and conducting of this year's state Envirothon competition. The Envirothon is a program for high school students to learn more about our natural environment. The Envirothon tests the student's knowledge on topics such as soils, water resources, forestry, wildlife, and current issues. The Assistant Coordinator established contacts and training throughout the state, teaming our Commission employees and high school teams in their areas, along with conducting a training session for the teachers and coordinating the forestry part of the competition and test. The Assistant Coordinator also coordinated the Wood Magic Forest Fair for October '00 at Harbison State Forest and Sewee Visitor's Center in Charleston County. The program involved approximately 1,696 students, teachers and adult chaperones. Due to the continued success of this program, Wood Magic will be held for three weeks in the fall of 2001 – one week at Sewee and two weeks at Harbison.

In addition, this program will be expanded to a third site in the state, Camp Daniels in Orangeburg County (spring 2002) and possibly a fourth site, the Piedmont Forestry Center (fall 2002) next year.

The Forestry Commission was also a key partner in the SC Teachers' Tour Coalition, an association of forest industry representatives, state and federal agencies. This coalition conducted the SC Teachers' Tour in the Piedmont area in June of this year. This successful tour provided 34 teachers with a first-hand experience of the forest industry and forest management. These educators received training, resources and information to conduct lessons in sustainable forestry for their students. Twenty-three of the participants received graduate credit for their efforts.

The Forestry Commission continues to be a strong supporter of the Coalition for Natural Resources' environmental education efforts throughout the state. Foresters are trained to help conduct Teaching KATE (Kids About The Environment) environmental education lessons in forestry at Camp Long in Aiken County and Camp Cooper in Clarendon County. The Commission also supports the Pre-KATE program for third and fourth graders, providing Harbison State Forest as a site for this program.

## **Harbison Environmental Education Forest**

Harbison Environmental Education Forest, located within the city limits of Columbia, contains 2,177 acres. The tract is being managed as a public greenspace to emphasize environmental and forestry education, demonstrate forest management practices, and serve as a forest recreational area. The forest is open seven days a week, with estimated annual attendance of 75,000 – 80,000.

Harbison's education staff and other SCFC employees associated with Harbison conducted 44 programs this past year, serving approximately 4188 participants. Thirty-five programs were conducted at Harbison, with 2044 participants, and 9 programs were conducted outside of Harbison by the staff, serving approximately 2144 participants. The Environmental Education Center was also one of the locations for the Pre-KATE (Teaching Kids About The Environment) program where 217 third and fourth graders were instructed in forestry, wildlife, soils and water related topics.

Harbison continues to offer support to the Scouting community. Twenty Cub Scout programs, 2 Girl Scout programs, and two Boy Scout forestry merit badge programs were held at Harbison. Approximately 442 scouts and their leaders participated in these programs. Scouts and other organized groups continue to use the facilities at Harbison for camping and other activities. Sixty-one groups used the camping facilities with a total of 928 campers.

They also give back to the Forest. Prospective Eagle Scouts completed 10 projects during the 2000-2001 fiscal year to fulfill their requirements. Scouts built 8 trail bridges, built and installed 12 bluebird houses, painted 8 trail bridges with non-slip paint, built and installed 5 benches on trails, planted 14 trees in the Historic Tree Grove, and helped conduct an educational program for Arbor Day. In addition, cub scouts performed maintenance on 10 waterbars on the Eagle Trail and carried out maintenance on approximately 3 miles of walking/hiking trails.

The Harbison Environmental Education Center is a 5000 square foot log building containing three offices, a small conference room, a screened porch, a deck and a 100-seat conference room. The Center is offered free to groups or agencies conducting environmental education workshops or classes. Thirty-six environmental education meetings were held at the center free of charge last fiscal year. SCFC conducted 57 meetings using the Education Center at no charge. Eighty other groups or agencies used the facilities for a fee. A total of 173 meetings were held in the Education Center with 6387 participants. This generated an income of \$18,400.00.

Harbison State Forest contains over 15 miles of roads and trails for bicycling, hiking, jogging and nature study. A permit system for recreational users requires bikers to pay a user's fee and promotes donations from other users. Harbison sold 1224 bike permits for an income of \$18,545.00 and received \$750.73 in donations. Several special use permits were also sold for biking and hiking events on Harbison which generated a revenue of \$772.50. Both school groups and visitors who may rent the facilities also used the Gazebo and Eagle Shelter frequently. Eighty groups used these facilities, with a total attendees of 3567. Among those were 53 paying groups, which generated an income of \$1540.00 and 27 educational groups that were not charged a fee.

The Middle Creek landing provides access to the Broad River for canoes and kayaks. Eighty-nine float plans were filed during 2000 – 2001 with the Education Center for approximately 267 participants.

## **Visitor Survey**

During March, April, and May 2001 Harbison staff conducted a survey of approximately 300 forest visitors. Respondents provided information about themselves such as their age range, sex, education, race, and where they live. They also told us how often they come to the Forest, what trails and facilities they use, and what type of activities they engage in here. Additional questions pertained to their satisfaction level with regard to conditions of trails and facilities as well as how well they have been treated by Harbison staff. Surveys were given out by hand by SCFC employees or placed on vehicles if the owner was not present. Directions on the top of the survey form explained that it was to be dropped into a collection box located near the front parking lot. Approximately one-third of the forms that were distributed were returned. In addition to the surveys that were handed out, 30 were mailed to canoe landing users with a nearly 50% rate of return.

From the survey, we learned that the most common visitor to Harbison is a white male between the ages of 17 and 50 with at least 4 years of college education. Over 90% live within 25 miles of the Forest, although a few visitors come from as far away as Greenville, Charleston, and Charlotte. Hikers and mountain bike riders make up the two largest groups of recreational forest users followed by joggers, dog walkers, picnickers, and canoe landing users. Most visitors come at least once a week, with 1/3 or more taking advantage of the trails 2 to 5 times a week. Trail use was spread fairly evenly among the three major trails at Harbison: Stewardship, Midlands Mountain, and Firebreak.

Few visitors come to the Forest before 9:00 AM, but otherwise use does not seem to vary much with time of day. A lot of recreational use occurs on weekends, with no significant difference in the number of visitors from one weekday to the next (just as much on Monday as on Friday). Most forest users saw a state forest employee at least occasionally and found them to be courteous and fairly knowledgeable. Over 80% of Harbison visitors never use the trails at Manchester or Sand Hills State Forest. A resounding number of Forest users rated the trails at Harbison as well-marked and well-maintained and Forest facilities as clean and well-supplied. A vast majority of respondents said that the trail permit system is administered fairly, trail fees are reasonable and they understand that Harbison is self-supporting. Most visitors have learned about forest management from informational signs and understand why timber is harvested on the Forest.

## **Forest Management**

Two timber sales were conducted during the 2000-2001 fiscal year. In late September 2000, approximately 92 Mbf of pine sawtimber were removed in a 10-acre harvest cut designed to release 3-year old longleaf pine regeneration. Proceeds from this sale amounted to \$27,557\*. A negotiated timber sale was conducted in early October to remove approximately 75 trees (approx. 32 cords) that had been killed by black turpentine and/or *Ips* beetles. This sale resulted in \$2,577.94\* of revenue.

One small prescribed burn involving 1 acre was conducted as part of an educational area. Wildlife food plots were also burned to enhance lespedeza growth.

\*Note: Twenty-five percent of all revenue generated on Harbison State Forest is paid to Richland County for local school district use.

# South Carolina Forestry Commission

## Organizational Chart

